

JAN 17 1928

AUTOMOTIVE INDUSTRIES

Volume 58
Number 2

PUBLISHED WEEKLY AT CHESTNUT AND 56TH STREETS
PHILADELPHIA, JANUARY 14, 1928

33c a copy
\$3.00 a year



Harmonized
interior fittings
- by TERNSTEDT -
will be a powerful
sales factor of
motor cars *in 1928*

TERNSTEDT
Designers and Makers  *Worlds Finest Body Fittings*
DETROIT  U.S.A.

Insure Long Life *with* Federal-Mogul Bronze

*The Complete
Federal-Mogul Line
Includes:*

Bronze-Back, Babbitt-
Lined Bearings
Die-Cast Babbitt Bearings
and Bushings
Bronze Bushings
Bronze Washers
Bronze Castings
Babbitt Metals
Bronze Cored and
Solid Bars

Wherever friction is greatest, use Federal-Mogul Bronze. It asks no favors. Its hard, tough, fibrous quality enables it to withstand the wear and tear of modern motoring conditions supremely well. It is admittedly the best Bronze available to the industry, and is specified by the majority of car and truck engineers. Its uniformity and unvarying quality have made it famous.

You can get Federal-Mogul Bronze in the form of finished bushings, or in cored or solid bars. And you can get it quickly and in sufficient volume to protect you on any and all schedule requirements.

FEDERAL-MOGUL CORPORATION
Detroit Michigan



**Federal-Mogul
FEDERAL**

Licensed Under Letters Patent of the
United States No. 1,455,939; No. 1,
302,584; No. 1,302,838; No. 1,340,337

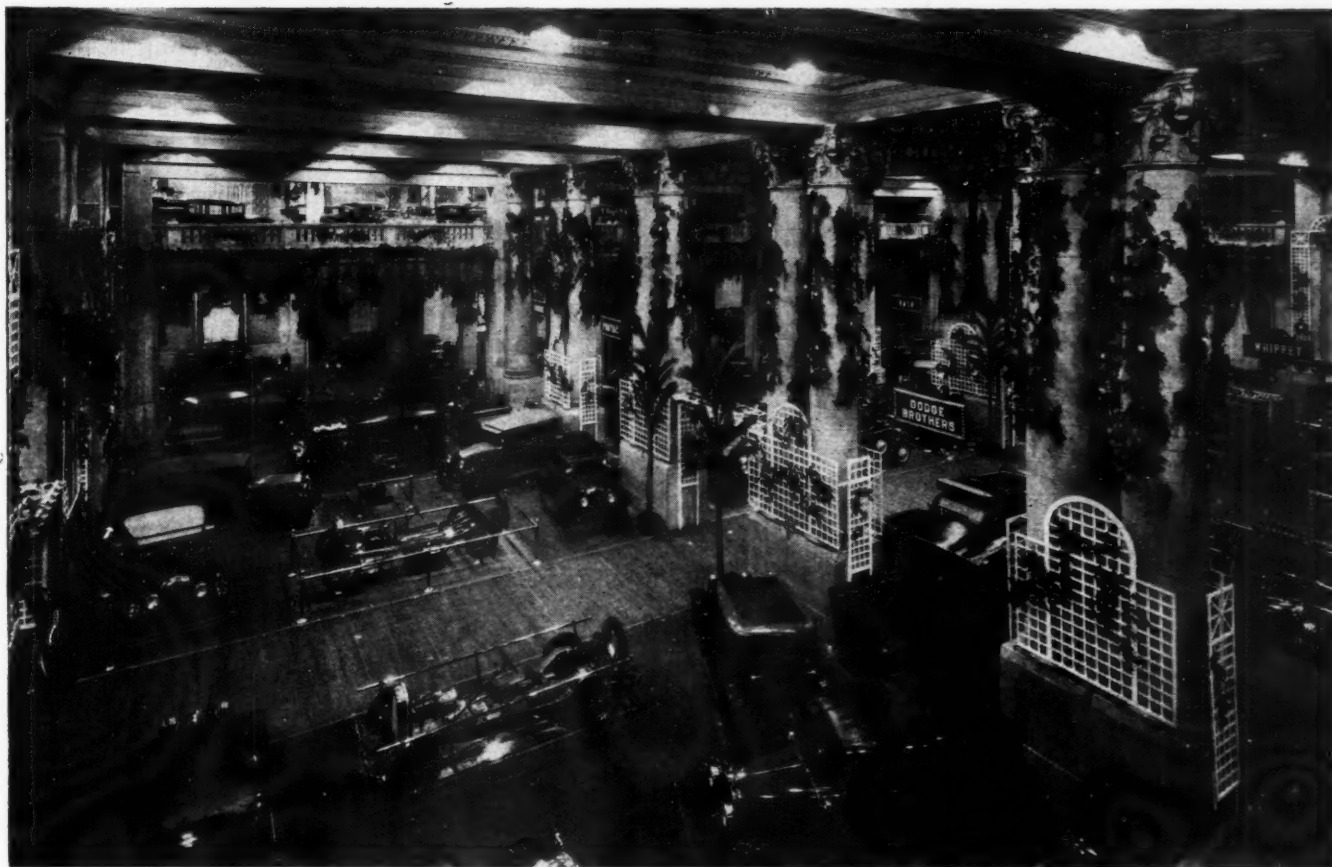
Your reputation is safe with Federal-Mogul — World's Largest Engine Bearing Manufacturers

AUTOMOTIVE INDUSTRIES

VOLUME 58

Philadelphia, Saturday, January 14, 1928

NUMBER 2



Some of the exhibits at the twenty-eighth annual New York show

Change and Progress Dominate at New York Show

Exhibits reflect multitude of new ideas in chassis and body design. Many factory executives on hand for opening.

By Norman G. Shidle

CHANGE, Change Change. . . !
Throbbing through the whole picturesque panorama of people and products, like the recurring motif of a grand symphony, the idea of change and progress was dominant in the twenty-eighth annual New York Automobile Show which opened at the Grand Central Palace on Saturday, Jan. 7.

Possibly, there has been as much fundamental change in models in other years, but never before have the changes been so obvious and so apparent to the eye of the show visitor. The body designer

and his new compatriot, the artist-engineer, have had a larger part than ever before in consummation of the industry's 1928 products, an ensemble of which appears at New York.

While new low prices were quoted on several makes, there were not a great many price declines on the opening days of the show. The cuts of the last few weeks make hazardous too definite statements about prices at the moment, but it is worth recording the fact that important executives in practically every one of the companies comprising the strongly competitive middle-price group ex-

pressed informal opinions to the effect that any reductions in this group would be unfortunate and unlikely.

Fewer car makes were exhibited than in previous years, but the multiplicity of models now in the lines of every company made necessary the utilization of two different spaces in different parts of the Palace by several important producers. The truck, accessory and shop equipment sections were full of interest as usual, the top floors sharing with the lower ones the attention of the big crowds which packed the Palace on the opening afternoon and evening.

Popular Radiator Lines

The tendency of a majority of body designs to follow a general style trend in a given year is emphasized again by the new cars at the 1928 show. The influence of the radiator shell lines, characteristic of the Hispano-Suiza, and recently popularized in this country by the La Salle, is strongly in evidence throughout the show, although many definite and different variations appear.

There has been a general tendency to increase rather than decrease wheelbase, while a great many increases in engine size and power are to be noted. With the addition of four-wheel brakes as standard equipment on the Chevrolet and Star, this type of braking equipment becomes almost universal on American cars, only one or two models on the floor of the Palace still utilizing two-wheel brakes as regular equipment. Seven chassis models on exhibit have four-speed transmissions this year, a specific indication of the growing interest of manufacturers in this type.

Colors in bodies, of course, are appearing in greater profusion than ever, the bizarre vying with the more delicately modulated hues for public interest and attention. So strongly has color come to be used in body displays, as a matter of fact, that some makers now find it possible to get a somewhat striking effect of difference by use of a color scheme in which black is the predominating note. Convertible models are more numerous than ever before, the convertible phaeton, as well as the convertible coupe, being a part of several lines this year. Coincidental locks are found on a number of cars.

Continued narrowing of body pillars and improvement of

drivers' vision is another noticeable trend from a body design standpoint.

Early buying at the show was encouraging. One maker reported more sales on the first day this year than during the entire week of the New York show last year, while the general feeling in nearly all the booths was quite optimistic as a result of the buying activity in the opening hours.

There were numerous signs that the factories are geared up this year for more intensive selling effort than for a long while past. Usually it is difficult to find any great number of factory executives in and around the show on the opening day. This year one could hardly go the length of an exhibit without running into some important factory man on Saturday afternoon and evening.

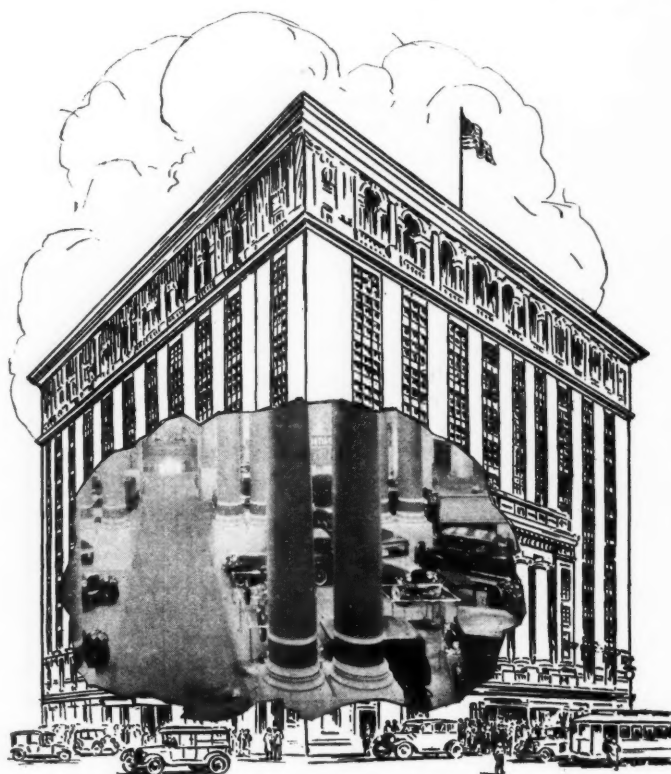
And they were there not merely to see how their own cars were taking with the crowds but also to study and examine the lines of competitors. There can be no doubt of the fact that the manufacturing and factory sales organizations this year are on their toes. All of which portends an active and prosperous year for the industry.

Still More Changes Coming

Despite the vast multitude of new models and new products at New York, too, it quickly became evident from informal conversations that still more improvements and changes are to be expected as the year continues. Change seems to have become a regular part of the routine of the automobile business; success seems to be depending more and more on the ability to change intelligently, steadily and consistently. A huge premium now rests on making flexibility a planned and consistent process rather than a mere restlessness—and that is what a majority of companies in the industry are doing.

That this tendency to give the public something new is a good one from a sales point of view seemed amply proved by attendance figures at the show on the opening day. There can be no question that the interest displayed was due to the many new jobs which the manufacturers had to offer. The creating of interest is the first important step toward the consummation of sales. The manufacturers know this and thus—

Through the whole of the New York show, ideas and products, there runs the underlying strain of Change, Change, Change. . . .



Grand Central Palace

Big Year Ahead *But* Intensive Selling Effort Needed

That is way factory executives in New York for the show size up business outlook for 1928. All expect new production record to be set.

By John C. Gourlie

CONFIDENCE that 1928 will be a big production year was almost unanimously expressed by company executives at the opening day of the New York show.

The note of doubt that underlay many of the predictions made a year ago was largely lacking as the men of the industry gathered for the annual exhibition. On all sides the view was heard that the uncertainty that influenced sales in 1927 had been overcome and that buying in the early part of 1928 would be on an extremely high level.

An evidence of the auspicious beginning of 1928 was the estimate of freight car requirements in the first quarter made by traffic managers in the Great Lakes region. It is estimated that about 20 per cent more freight cars will be needed than in the corresponding period of 1927.

While it is generally agreed that there will be an unusually large market for automobiles this year—perhaps a record one—there are some expressions of caution. It is agreed that intensive selling effort is more than ever needed if the industry is to maintain and expand its position in competition with other industries. In other words, while the market is available, individual companies, or even all companies as a group, may be at a competitive disadvantage if intelligent sales pressure is not constantly applied.

The consequences of price cuts were also taken into consideration. It is heartily hoped and believed that after the changes coincident with the opening of the show further changes will be avoided and lists stabilized. The experiences of other years, when the cry of "price war" restricted buying, were kept well in mind.

It was also felt that, in view of the very low lists now in effect, high production would be necessary for a majority of the companies. Therefore the favorable prospect for market conditions was viewed with particular satisfaction. It was held that the manufacturers could make satisfactory profits at the present price levels if sales came up to the level that seemed indicated.

The used car situation was not generally regarded as any too promising. The recent low production of new cars, and the comparatively low production for the entire year 1927, was of some benefit in keeping stocks down. But with new low prices in the lower priced field, and with a large volume of new car sales in prospect, it was felt that strenuous attention would have to be given to used cars.

With a good year in exports behind them, the leaders of the industry were naturally confident of further gains in overseas sales. Difficulties were seen in a few territories, but the picture in the main was a good one.

Some of the individual expressions of opinion follow:

H. M. Stephens, general sales manager, Cadillac Motor Car Co.: There is a greater potential market in 1928 than in 1927. It is undeniable that much of this market will be passive. This means that there are thousands of people who will buy new automobiles if they are subjected to intensively active salesmanship. Otherwise they will get along with their old cars and defer the purchase of new ones. In other words, the big task of our industry this year is to convert this substantial passive market into an active one. And this can only be accomplished through more active and more intelligently-directed retail salesmanship. The success of each unit in the industry—and, as a consequence, of the industry as a whole—will be measured more than ever during 1928 by the ability of the retail salesmen in each unit to transform this host of passive prospects into actual buyers.

Of course, that is a self-evident truth. It is one of the fundamentals that we all must devote more attention to our market than we ever have in the past. The Cadillac program for 1928 is based on that fundamental. The La Salle price reductions and the addition of several new body styles to the line, following the recent similar adjustment on Cadillac, inspire us to look forward to the best year we have ever enjoyed.

Charles A. Tucker, general sales manager, Peerless Motor Car Corp.: With the final and decisive squelching of the merger rumors and the installation of a new management, under the leadership of Leon R. German, Peerless is starting 1928 with better prospects than for many years. A program of expansion is already under way. Hand in hand with the improvements and refinements in manufacturing inaugurated by Albert Misch, who helped to build the first Peerless ever made and was recently reappointed manager of production after continuous service with the company since those first days, we are planning a substantial increase in our production schedule. Our aim is to build 1000 cars this month. There will also be a sizeable increase in our sales organization, and we have started on that, too.

Our export business showed a 66 per cent increase in 1927. We are better organized in that department than at any time in our history, and we look forward

pressed informal opinions to the effect that any reductions in this group would be unfortunate and unlikely.

Fewer car makes were exhibited than in previous years, but the multiplicity of models now in the lines of every company made necessary the utilization of two different spaces in different parts of the Palace by several important producers. The truck, accessory and shop equipment sections were full of interest as usual, the top floors sharing with the lower ones the attention of the big crowds which packed the Palace on the opening afternoon and evening.

Popular Radiator Lines

The tendency of a majority of body designs to follow a general style trend in a given year is emphasized again by the new cars at the 1928 show. The influence of the radiator shell lines, characteristic of the Hispano-Suiza, and recently popularized in this country by the La Salle, is strongly in evidence throughout the show, although many definite and different variations appear.

There has been a general tendency to increase rather than decrease wheelbase, while a great many increases in engine size and power are to be noted. With the addition of four-wheel brakes as standard equipment on the Chevrolet and Star, this type of braking equipment becomes almost universal on American cars, only one or two models on the floor of the Palace still utilizing two-wheel brakes as regular equipment. Seven chassis models on exhibit have four-speed transmissions this year, a specific indication of the growing interest of manufacturers in this type.

Colors in bodies, of course, are appearing in greater profusion than ever, the bizarre vying with the more delicately modulated hues for public interest and attention. So strongly has color come to be used in body displays, as a matter of fact, that some makers now find it possible to get a somewhat striking effect of difference by use of a color scheme in which black is the predominating note. Convertible models are more numerous than ever before, the convertible phaeton, as well as the convertible coupe, being a part of several lines this year. Coincidental locks are found on a number of cars.

Continued narrowing of body pillars and improvement of

drivers' vision is another noticeable trend from a body design standpoint.

Early buying at the show was encouraging. One maker reported more sales on the first day this year than during the entire week of the New York show last year, while the general feeling in nearly all the booths was quite optimistic as a result of the buying activity in the opening hours.

There were numerous signs that the factories are geared up this year for more intensive selling effort than for a long while past. Usually it is difficult to find any great number of factory executives in and around the show on the opening day. This year one could hardly go the length of an exhibit without running into some important factory man on Saturday afternoon and evening.

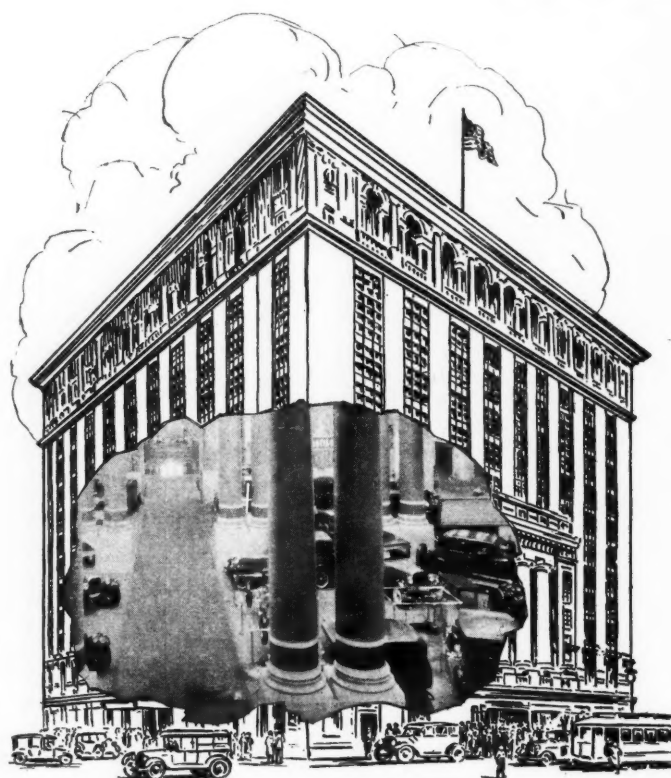
And they were there not merely to see how their own cars were taking with the crowds but also to study and examine the lines of competitors. There can be no doubt of the fact that the manufacturing and factory sales organizations this year are on their toes. All of which portends an active and prosperous year for the industry.

Still More Changes Coming

Despite the vast multitude of new models and new products at New York, too, it quickly became evident from informal conversations that still more improvements and changes are to be expected as the year continues. Change seems to have become a regular part of the routine of the automobile business; success seems to be depending more and more on the ability to change intelligently, steadily and consistently. A huge premium now rests on making flexibility a planned and consistent process rather than a mere restlessness—and that is what a majority of companies in the industry are doing.

That this tendency to give the public something new is a good one from a sales point of view seemed amply proved by attendance figures at the show on the opening day. There can be no question that the interest displayed was due to the many new jobs which the manufacturers had to offer. The creating of interest is the first important step toward the consummation of sales. The manufacturers know this and thus—

Through the whole of the New York show, ideas and products, there runs the underlying strain of Change, Change, Change. . . .



Grand Central Palace

Big Year Ahead *But* Intensive Selling Effort Needed

That is way factory executives in New York for the show
size up business outlook for 1928. All expect
new production record to be set.

By John C. Gourlie

CONFIDENCE that 1928 will be a big production year was almost unanimously expressed by company executives at the opening day of the New York show.

The note of doubt that underlay many of the predictions made a year ago was largely lacking as the men of the industry gathered for the annual exhibition. On all sides the view was heard that the uncertainty that influenced sales in 1927 had been overcome and that buying in the early part of 1928 would be on an extremely high level.

An evidence of the auspicious beginning of 1928 was the estimate of freight car requirements in the first quarter made by traffic managers in the Great Lakes region. It is estimated that about 20 per cent more freight cars will be needed than in the corresponding period of 1927.

While it is generally agreed that there will be an unusually large market for automobiles this year—perhaps a record one—there are some expressions of caution. It is agreed that intensive selling effort is more than ever needed if the industry is to maintain and expand its position in competition with other industries. In other words, while the market is available, individual companies, or even all companies as a group, may be at a competitive disadvantage if intelligent sales pressure is not constantly applied.

The consequences of price cuts were also taken into consideration. It is heartily hoped and believed that after the changes coincident with the opening of the show further changes will be avoided and lists stabilized. The experiences of other years, when the cry of "price war" restricted buying, were kept well in mind.

It was also felt that, in view of the very low lists now in effect, high production would be necessary for a majority of the companies. Therefore the favorable prospect for market conditions was viewed with particular satisfaction. It was held that the manufacturers could make satisfactory profits at the present price levels if sales came up to the level that seemed indicated.

The used car situation was not generally regarded as any too promising. The recent low production of new cars, and the comparatively low production for the entire year 1927, was of some benefit in keeping stocks down. But with new low prices in the lower priced field, and with a large volume of new car sales in prospect, it was felt that strenuous attention would have to be given to used cars.

With a good year in exports behind them, the leaders of the industry were naturally confident of further gains in overseas sales. Difficulties were seen in a few territories, but the picture in the main was a good one.

Some of the individual expressions of opinion follow:

H. M. Stephens, general sales manager, Cadillac Motor Car Co.: There is a greater potential market in 1928 than in 1927. It is undeniable that much of this market will be passive. This means that there are thousands of people who will buy new automobiles if they are subjected to intensively active salesmanship. Otherwise they will get along with their old cars and defer the purchase of new ones. In other words, the big task of our industry this year is to convert this substantial passive market into an active one. And this can only be accomplished through more active and more intelligently-directed retail salesmanship. The success of each unit in the industry—and, as a consequence, of the industry as a whole—will be measured more than ever during 1928 by the ability of the retail salesmen in each unit to transform this host of passive prospects into actual buyers.

Of course, that is a self-evident truth. It is one of the fundamentals that we all must devote more attention to our market than we ever have in the past. The Cadillac program for 1928 is based on that fundamental. The La Salle price reductions and the addition of several new body styles to the line, following the recent similar adjustment on Cadillac, inspire us to look forward to the best year we have ever enjoyed.

Charles A. Tucker, general sales manager, Peerless Motor Car Corp.: With the final and decisive squelching of the merger rumors and the installation of a new management, under the leadership of Leon R. German, Peerless is starting 1928 with better prospects than for many years. A program of expansion is already under way. Hand in hand with the improvements and refinements in manufacturing inaugurated by Albert Misch, who helped to build the first Peerless ever made and was recently reappointed manager of production after continuous service with the company since those first days, we are planning a substantial increase in our production schedule. Our aim is to build 1000 cars this month. There will also be a sizeable increase in our sales organization, and we have started on that, too.

Our export business showed a 66 per cent increase in 1927. We are better organized in that department than at any time in our history, and we look forward

with confidence to another big export year.

R. T. Romine, general sales manager, Hudson Motor Car Co.: With new models, both Essex and Hudson are fronting a record year. Both country and city sales should be generously large in 1928, following the experience that Hudson has had in the past year. Production activity is becoming pronounced in the Hudson plants, following the early December letdown for the new model announcement, and stocks in dealers' hands are generally low. Hudson will go along in 1928 with little or no change in sales, merchandising and manufacturing methods. That business this year will be extremely competitive, particularly in the low-priced field, is evident, and it is yet too early to anticipate the course that it will take.

Hudson and Essex have enjoyed good export business, the largest that the company has had, and goes into 1928 with this section of the general picture extremely bright.

Sid Black, vice-president, Chandler-Cleveland Motors Corp.: The Chandler dealer convention, just held at Cleveland, was one of the most successful in the history of the company. With the new Westinghouse vacuum brakes that Chandler is pioneering, and with generally satisfactory dealer representation throughout practically all parts of the country, we anticipate a 40 per cent increase in Chandler-Cleveland production for the year. We expect a record year for the industry as a whole but, due to the confused price situation in the low-priced field, we do not care to predict total figures for the industry. We deprecate the seriousness of the used car situation. Chandler policies will in general continue as they have in the past.

Exports are an important factor with Chandler. We now have 110 dealer outlets abroad, which assures that the company will enjoy a sizeable and growing export business during the forthcoming period.

F. D. Sopar, assistant general sales manager, Velie Motors Corp.: We are looking to 1928 as the most promising year in our history. Our last year's business was 22 per cent ahead of the previous year and we are confident we can show as great an increase for 1928, bringing our production up to 7500 to 8000 cars.

General business conditions are good throughout the country. There has been a great improvement in the South, which is now demanding better cars, and we have recently opened four new distributorships in response to this demand. Conditions in the motor car field are especially good with Ford back in production. When cars are moving in the low-priced field, the demand for quality cars is stimulated. Our plant is busy on full production basis. The only condition which has not improved during the last year is the used car business. This is bound to be a source of trouble until some plan is found whereby used cars can be junked and removed from the market.

W. H. Patterson, vice-president, Elcar Motor Co.: The reports received from every section where we have distribution indicate increased sales this year, and there is greater activity in the export field. We find that the public is becoming more discriminating and is demanding greater individuality in cars and our line for 1928, which has already been announced, is based on this idea. We are finding a ready response to our new low-priced eight, and sales up-to-date have necessitated a full production schedule

for us. We are satisfied with present conditions affecting the motor car industry. Our dealers are in good shape with low stocks of both new and used cars.

Harry Elgin, general sales department, Dodge Brothers, Inc.: The company is expecting a production of 375,000 cars this year, which will exceed by 40,000 the company's previous highest production record. The reception accorded the new Victory Six assures it being the leader and it will probably run between 55 and 60 per cent of our total production. We are swinging into full production just as fast as possible and increased body production now under way will enable us to produce at a still higher rate before the month is over. The orders received for one body model in the Victory line has already exceeded our expectations.

General conditions affecting all industry and the automobile business particularly are sound. It is our belief that the public is thoroughly convinced that automobile values are now being offered as never before. Buyers feel that they are able to get their money's worth. There is no public demand for lower prices aside from those already made in the lowest price field, and the activity of these companies will stimulate business throughout the entire industry.

Rufus S. Cole, general sales manager, Hupp Motor Car Corp.: Stabilized retail conditions should follow quickly the announcement and display of new cars at the New York show. Buyers will have a chance to see the new offerings and determine their purchases without the restraining influence that the expectancy of new models has exerted during a large part of 1927.

This should have an immediately beneficial effect on used cars. Many persons who might have bought used cars in the latter part of 1927 undoubtedly waited to see the new low priced cars. They now have the opportunity to decide. How the used cars fare remains to be seen. I am sure that aggressive selling efforts by dealers coupled with the advantage of immediate deliveries will maintain the used car market satisfactorily.

Lower prices at which some lines are being offered will not have a paramount effect on sales. The public has demonstrated in recent years that definite requirements of demand must be met before sales result. This is best evidenced by the fact that the lowest priced models in any line are rarely the largest sellers.

Hupp Motor Car Corp. goes into the first quarter of this year on a high manufacturing basis. In this we are helped by the fact that new models introduced late in 1927 made the last quarter of that year the largest in our history. Our dealers maintained a high sales rate and their stocks of both new and used cars, with demand continuing, justify early high production by the factory.

E. L. Cord, president, Auburn Automobile Co.: Our organization will build and sell about 35,000 vehicles in 1928 as compared with about 25,000 last year. Auburn dealers have extremely low new car stocks at the moment, while their used car situation is very favorable.

Improvement of service methods, is one of the most important problems facing the industry today and manufacturers will devote considerable energy to this task during the coming 12 months.

John N. Willys, president, Willys-Overland, Inc.: The total output of motor cars in 1928 should exceed

(Continued on page 74)

Increase *in* Engine Power Among Chief Trends of Year

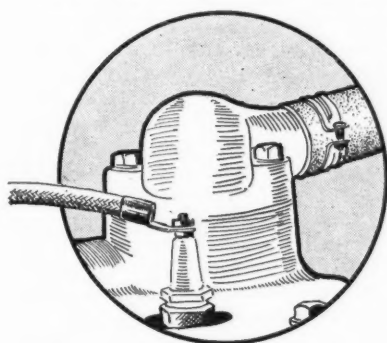
Strong swing noticed also toward aluminum pistons and dual valve springs are coming into more extensive use.

Vibration dampers continue in vogue.

By P. M. Heldt

PROBABLY at no other show during the last decade have there been as many new chassis models as at this one, but the opportunities for studying trends in chassis design were somewhat limited by the fact that comparatively few makers had a stripped show chassis on their stand.

One explanation for this probably is the great increase in body models during the present season. Every maker naturally wants to present at the show as extensive a line of his products as possible, and this in many instances does not leave room for the chassis, which, moreover, is a rather expensive exhibit to prepare.



Mounting of the thermostat on Oakland

That there is no lack of interest in chassis construction on the part of the public was well shown on the opening day by the fact that all of the chassis exhibits were constantly surrounded by crowds, and it was difficult to find a place at the railings surrounding them.

Looking over the new models, one of the first things to impress one is the fact that engine power has been increased in numerous cases, particularly at the two ends of the scale. At the upper end of the power range, engine outputs have been stepped up by increasing piston displacement, by increasing the compression ratio, and in the case of eight-cylinder vertical engines by the adoption of dual carburetors and dual manifolds.

At the lower end the scale, which comprises most of the four-cylinder engines, there are also numerous instances of a considerable increase in power, which in this case has been achieved more generally by increasing the speed of the engine and its volumetric efficiency. In the larger class the actual horsepower are now well beyond 100, the Lincoln rating at 110, the Stutz and the Chrysler "80" at 112 each, and the several models equipped with the large eight-cylinder Lycoming engine at 115.

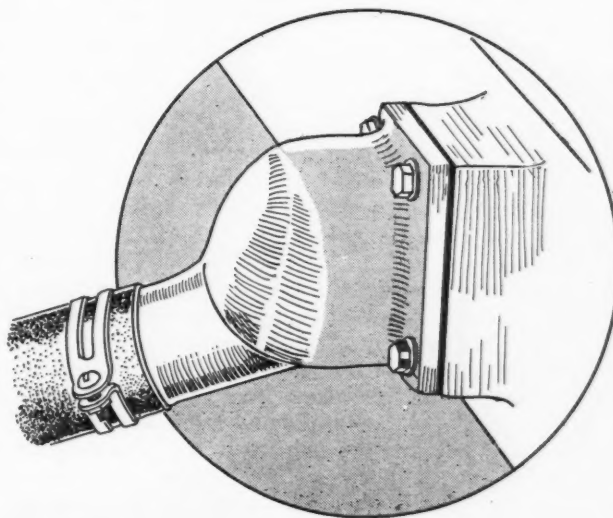
One of the most remarkable changes in engine design during the past year has been a strong swing to the

aluminum piston—some 14 years after its first introduction—which type of piston is found on about 70 per cent of all present models. Aluminum alloy connecting rods, on the other hand, have made less rapid progress; they are now being used by Hupp, Franklin and Continental (on the new eight-cylinder engine). Continued improvement has been made in the cooling of valves, in that water jackets now generally extend completely around all of the valve seats where formerly there was a common wall between the inlet and exhaust valve pockets.

Dual valve springs are coming into more extensive use, which tend to prevent breakage due to spring surge. Among the users of such springs are Franklin, Jordan and Packard.

Vibration dampers continue to be used on the majority of six and eight-cylinder engines, though the harmonic balancer has been eliminated from one of the General Motors models which formerly carried it. There is a noticeable trend toward shorter strokes and with short-stroke engines it is easier to get along without these dampers.

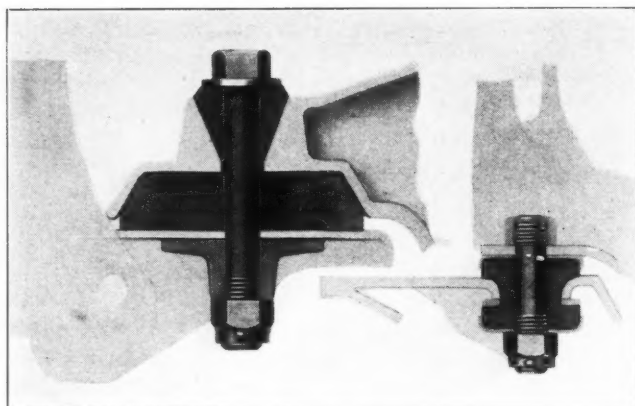
A noteworthy improvement on the Lanchester vibration damper has been made by Chrysler, which make it fully effective not only for one critical speed but for others as well. This consists in the insertion between



Mounting of thermostat on Buick radiator

the two metallic members of the damper of a lead-loaded rubber ring which has a tapering section and therefore is pressed against the metal members as it expands with increasing speed of the engine.

In recent years there has been a pronounced return to four-point mountings for engines, which had almost passed out a decade ago. The reason for this change in practice is probably that with the increasing use of closed bodies and the stepping up in car speeds, it has



Details of rubber mounting of Oldsmobile engine

become necessary to stiffen the frames. A four-point engine support, together with a rigid crankcase, naturally adds greatly to the stiffness of the frame at the forward end.

Roller chain front end drive appears at the show for the first time. Through the efforts of a joint standardization committee of the S.A.E. and the A.S.M.E., the design of sprockets for roller chains has been completely revised in recent years, and with the new type of sprocket these chains meet all requirements with respect to silent operation, it is claimed. For front end drives a dual chain is used, with two rollers on the same pin, separated by a set of links. It is claimed that the roller chain lends itself particularly to use on high speed engines, on account of its low weight and the consequent smallness of the centrifugal forces on it when passing over the sprockets.

In connection with fuel systems, note is to be made of a trend toward pump fuel feed. On the Studebaker eight, the Oakland, the Pontiac and the new Graham-Paige, the AC diaphragm-type fuel pump, first presented to the public at last year's show, has been adopted as standard equipment, while the Stutz is fitted with the Autopulse electric pump.

Most noteworthy perhaps, among changes in fuel systems, is the adoption of dual carburetors and dual manifolds for practically all of the new eight-cylinder vertical engines. When this type of engine was first brought out it was realized by most of the designers that distribution difficulties would be met, but inasmuch as the engines were generally of large displacement and developed more power than any that had been used previously, the problem of manifolding was sidetracked for the moment. Experience with racing engines of this same type showed that the power could be materially increased by the use of two or more carburetors. This solution did not recommend itself for stock cars on account of the complication and expense, and a compromise was finally made by adopting a carburetor having two mixing tubes but only a single float chamber, in conjunction with a manifold having two uptakes, one

feeding the four inner cylinders and the other the four outer ones. This makes the conditions of flow in each of the halves of the manifold exactly the same as those obtaining in conventional four-cylinder engines.

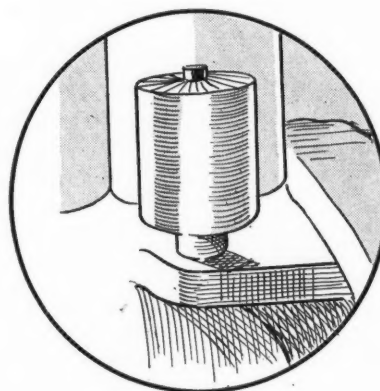
A change that is contrary to the general trend toward standardization is the adoption of metric thread spark plugs on several models. These spark plugs, which have a thread diameter of 18 millimeters or 0.708 in., are considerably smaller in size than the S.A.E. standard $\frac{7}{8}$ -in. plug and are therefore less effective heat reservoirs. Their adoption is expected to lessen the tendency toward detonation.

The electric wiring of the ignition system has been "cleaned up," particularly on the smaller, lower-priced cars, and spark plug cable tubes are more in evidence on the engines of such cars. It was also noticed that soft rubber covers or protectors are being used more extensively on the insulators of the spark plugs, evidently to protect them from water spray and consequent cracking.

A good deal of attention has been given to the improvement of cooling systems. The thermosyphon system of circulation, which was in extensive use a decade ago, is now almost obsolete, the reason being the general trend toward multi-cylinder engines, to which this system is not so well adapted. Thermostatic control of the circulation is a common feature on the more expensive models. There is considerable variety in the location of the thermostat, the most common plan being to place the "bellows" in the water outlet from the cylinder head at the forward end of the engine. In the new Pontiac engine the cylinder heads are made in two castings, each comprising the heads for three cylinders. The object of this design is to make it unnecessary to disturb the ignition unit—which is located on top of the engine at the middle of its length—when it becomes necessary to remove the cylinder heads for the purpose of grinding valves or cleaning out the carbon.

The use of two-cylinder head castings made it necessary to provide a manifold for the return of the water, each branch of which is connected to one of the head castings. In this case the thermostat is arranged horizontally in the manifold, which latter connects to the radiator top tank at one side so as not to interfere with the radiator fan.

Evaporation cooling has not found a place in regular production, but some of its advantages are seen in the

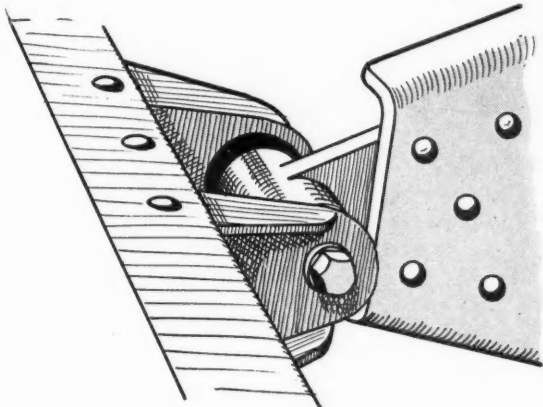


Air cleaner on breather of Buick engine

new Pontiac and the new Oakland. By adopting a cross-flow type of radiator the loss of alcohol from the radiator in winter driving is minimized.

Radiators in many instances have been made higher and narrower, not with a view to improving their efficiency but rather with a view to improving the general

appearance of the car. In fact, it may be suspected that the efficiency of the cooling system has been impaired in some cases by this change in form; not that the cooling systems of the new cars are inadequate, but since with a very oblong radiator the sweep of the fan



Rubber-cushioned engine mounting on Reo

can cover only a comparatively small fraction of its surface, the fan certainly is not as effective as it might be with a radiator of more nearly square section. As a result of this change in the form of radiators it is likely that fan shrouds will again come into more extensive use. Up to the present such shrouds have been confined to the more powerful cars, in which it naturally is somewhat difficult to get sufficient cooling capacity, but the newest Chevrolet model also has a shroud.

Lubricating systems in general remain the same. One of the few automobile engines in which oil is forced under pressure to the piston pin bearings is the new Hupmobile six-cylinder, in which the connecting rods are drilled through the shanks. Engine lubrication was very effectively demonstrated at the show on a Velie six-cylinder engine, in which portions of the housings were cut away and replaced by celluloid windows. This make of engine, as is well known, is of the valve-in-head type and the oil pump is located outside the crankcase. Oil is delivered directly through passages drilled in the crankcase walls to the main bearings, and by a pipe extending up within the cylinder block, to the hollow rocker arm shaft at the top. As the oil works out through the rocker arm bearings, it accumulates in the valve chamber on the top of the cylinders and trickles down through the valve rod chambers at the sides, dropping onto the camshaft. Through the celluloid windows the flow of oil to all bearing surfaces could be plainly seen.

Crankcase ventilation is now a feature of a great many engines. There are essentially three systems: (1) that in which ventilation is induced by leading a pipe from the upper portion of the crankcase into the air stream underneath the crankcase, giving a sort of ejector effect; (2) that in which a pipe from the crankcase is connected to the inlet system of the engine; and (3) that of the Franklin car, in which the air pressure of the cooling system is made use of. The first system, which employs the ejector effect, is found on the Chrysler 62 and 72, the Oakland and the Chevrolet, among others.

More and more of the clutches are of the single plate type, which seems to have the advantage over other types of having the least spinning weight and probably also is the least expensive to manufacture. Many of

these clutches now embody the feature of a flexible insert. Experience has shown that the effect of this insert in preventing gear clatter depends not only on its flexibility but also on its damping action, resulting from the internal friction of the fabric when distorted. In some cases the rubberized fabric insert has now been replaced by a combination of coiled springs providing the flexibility, and friction disks providing the energy-absorbing effect. This arrangement seems more complicated than the simple rubberized fabric insert, but it has a manufacturing advantage in that the same clutch can be readily adjusted to the requirements of different engines by merely varying the tension on the springs pressing the members together. There is a possible further advantage in that none of the materials are susceptible to injury by oil, although in view of the fact that oil must be kept out of the housings of dry plate clutches in order to maintain their operating efficiency, the possibility of practical benefit to the user from this point of view seems rather remote.

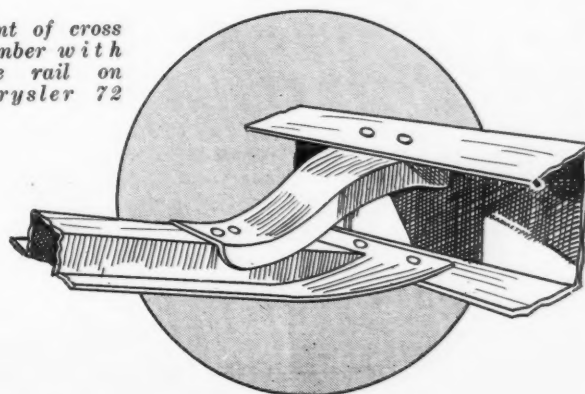
More Four-Speed Transmissions

When the four-speed transmission with two silent speeds first made its appearance the writer made the prediction it would see considerable application in the passenger car field. Up to the end of last year there was only a single passenger car model equipped with such a transmission, but during 1928 at least five different models will be equipped with it. Of the three makers now using it on passenger cars, two have been fitting it for about a year, one on a light truck model only. The writer confidently expects the use of this type of transmission in the passenger car field to grow, although with the large scale-operation of our passenger car manufacturers and the proverbial slowness of motion of large bodies, its wider adoption can be expected to come about only gradually.

There have been no changes of note in connection with rear axle design, the spiral bevel gear remaining the predominating type of final drive. Now and then a new model appears with a different drive, as, for instance, the new Marmon Eight with a hypoid gear and the Velie Eight with a worm gear drive.

Frames are still being stiffened up in continuation of the movement begun when front doors were first adopted and it was found that with the light frames then in use it was often only a short time till the doors would not open and close properly. The problem, of course, is to secure the maximum rigidity of the frame structure without material increase in weight, and this has led to an increase in the number of cross members and a variety of forms of such members. While some years ago efforts were directed mainly to strengthening the frames at the middle of their length, so as to

Joint of cross member with side rail on Chrysler 72



prevent distortion of bodies and consequent trouble in the operation of the doors, more recently there seems to be particular need for stiffening the forward ends. In the writer's opinion this is a result of the adoption of balloon tires and front wheel brakes, which has brought in its train various forms of front end vibration. Tramping of the front wheels is transmitted to the forward end of the frame, which is distorted in consequence. It cannot be hoped, of course, to entirely eliminate this distortion, but by stiffening the forward end of the frame it can be reduced. This stiffening is accomplished in a number of different ways. In the Cadillac a reinforcing channel is inserted in the main side channel at the forward end.

Box-Section Frame Rail

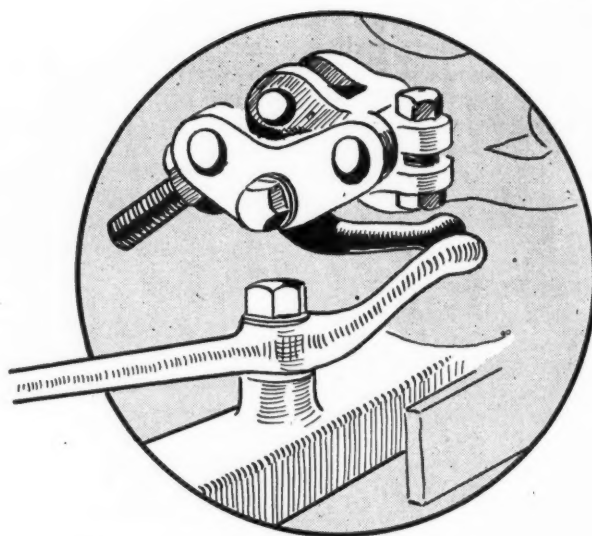
In the new Stearns Eight the reinforcing channel is reversed in position, so as to form a box section, while in several other new models the lower flange of the frame channel is provided with a downwardly turned lip. It was noticed that on the Studebaker chassis the radiator is connected to the cowl by means of diagonal braces, which appear to be intended as a preventive against so-called radiator weaving.

A frame of rather unusual design is used on the new Dodge Victory Six. Not only are the side channels of exceptional depth and have comparatively narrow flanges, but the frame itself widens out in front of the rear wheels, following the lines of the body. This brings the forward mounting of the rear springs inside the frame side rails, on a cross member, as shown by the accompanying sketch.

Considerable ingenuity has been shown in the development of cross members to give the maximum frame rigidity for given weight. In the Dodge above referred to there is a pressed steel cross member directly behind the powerplant which is of very deep section and has large holes stamped in its web, the propeller shaft passing through the central one of these holes.

The arrangement of the cross member at the forward end of the rear springs on the Chrysler 72 is shown by the sketch herewith. The cross member is of an inverted channel section, with lips on both flanges of the channel; it is slightly arched and connects directly to the lower flange of the side members, a bracing member extending to the upper flange. On the Kissel 8-80 the side rails are arched sufficiently so they will be straight when subjected to the load of the body and passengers.

In steering gears there appears to be a tendency to



Mechanism of Chevrolet front wheel brake

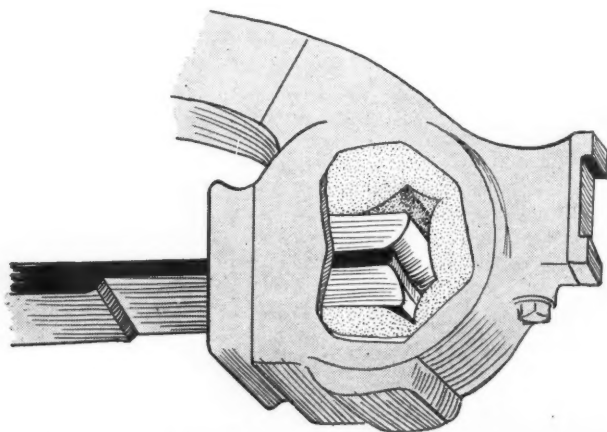
return to the type in which the mechanical advantage is constant throughout the range of steering motion. During the past two or three years a type of gear had come into use on many cars in which the mechanical advantage was less at the ends of the range of motion than at the center. This afforded two advantages, in that in all ordinary steering operations, when the wheels have to be deflected through only a slight angle, the effort required to operate the wheel is comparatively small, and in that, on account of the greater mechanical advantage of the gear near the center, the gear is more nearly self-locking. However, two developments in recent years have made this type of gear less desirable. One of these is that more and more cars are being driven by women, and these often have not enough strength to turn the steering gear when near one end of its range, where the mechanical advantage is less; the other is that with the increasing congestion in our streets, cars have to be maneuvered a great deal to park them in restricted spaces, and this maneuvering is more difficult with the lesser mechanical advantage of the gear at the end of its range.

Adjustable Steering Posts

There appears to be an increasing tendency to make steering posts adjustable as to slope, to adapt them to drivers of different size. This is readily accomplished by mounting the post at its lower end in a trunnion on the frame and providing an adjustable bracket on the cowl.

Steering hand wheels are changing in form perceptibly. The old style wood rim wheel is losing in favor and a new type of wheel with a flexible steel core surrounded by molded rubber is gaining ground. This type of steering wheel has the advantage of a certain flexibility in the direction of its axis, which tends to reduce fatigue in the arms of the operator. Moreover, the rim can be grooved or scalloped so as to afford a firm grip, even when the driver wears gloves, and, finally, with a steel core the wheel, of course, is practically unbreakable.

There is also a tendency to enlarge the hub of the wheel, to permit of a more substantial construction of controls. In a good many instances there are now three control levers at the center of the wheel, the third lever being the headlight control. In some of the new models,



Sketch of model of Chrysler rear spring horn with bumper pad

however, including the Oakland, headlight control is by a foot switch.

So far as could be learned at the show, four-wheel brakes are now standard on all American passenger cars with the exception of one in the high-priced and one in the low-priced field, their adoption on the low-priced models evidently having been speeded by the appearance of the new Ford.

The use of pressed steel for brake shoes is spreading. This material is made use of for the shoes of the transmission brake on the larger Nash, which shoes are formed with flanges on opposite sides. The new Chevrolet front wheel brakes also have pressed steel shoes. These brakes are operated by means of a substantially horizontal lever pivoted on the axle ends, the free outer end of which contacts with another lever mounted on the shaft of the brake cams, the adjusting means being incorporated in this latter lever, as shown by the sketch herewith.

Although the use of four-wheel brakes is now almost universal, there is still much variety in brake layouts. A good many cars have only the four brakes, one on each wheel, which can be applied either by means of the pedal or by means of the so-called emergency lever, and this arrangement seems to be accepted under all state laws, although many of them call for two independent brakes. On other cars, however—and the list is not con-

finied to the high-priced class—the lever applies entirely separate brakes. The respective merits of these two systems seems to be one of the open questions of automobile design today. Some makers seem to be staunch believers in one system, and some prefer the other.

There is also considerable difference as to methods of equalization. Generally some attempt is made to definitely proportion the amount of brake application effort between the front and rear brakes. On the Marmon eight-cylinder chassis the brake cross shaft at the center of the frame is mounted in spherical bearings on a cross member, directly adjacent to the points of connection to it of links from the pedal and brake lever. This shaft passes through somewhat enlarged holes in the web of the frame side channels and carries double-armed levers at both ends, from which connection is made to both front and rear brakes. There being no support for the shaft for at least a foot from the end, it flexes slightly when the brakes are applied, and thereby automatically compensates for differences in brake adjustment.

Chromium plating, which is now widely used for exposed sheet metal parts such as radiator shells and lamps, is gradually coming into use also for parts subjected to hard wear and corrosive influences. It is used on piston pins in the Franklin and on knuckle pins and pump shafts on the Chrysler 80.

When New Models and Important Changes Announced Since July 1 and Not Included in This Issue Were Described in *Automotive Industries*

CARS					
Auburn	Jan. 7	Jordan	July 16	Willys-Knight	Jan. 7
Buick	July 23	Kissel	Oct. 8		
Cadillac	Sept. 10		Sept. 10	TRUCKS	
Chandler	July 30	La Salle	Dec. 17	Autocar	July 30
	Aug. 20		July 23	Federal	July 16
	Dec. 24		July 30	Ford	Dec. 10
Chevrolet	Dec. 31		Sept. 24	G. M. C.	Dec. 3
Chrysler	July 2	Locomobile	July 2	Graham	Aug. 20
	Aug. 6	McFarlan	July 9		Sept. 24
	Aug. 20	Marmon	Dec. 10		Nov. 5
	Nov. 5		Jan. 7	Gramm-Bernstein	Aug. 27
	Nov. 26	Moon	July 2	Indiana	July 30
Dodge	July 16		Nov. 26		Aug. 20
	Sept. 24		Jan. 7		Oct. 15
	Jan. 7	Nash	Oct. 15	Mack	Dec. 17
Durant	Jan. 7	Oakland	July 30	Overland	Sept. 3
Erskine	Dec. 31	Oldsmobile	Jan. 7	Pierce-Arrow	Aug. 30
Essex	Jan. 7	Overland	Sept. 30		Dec. 24
Falcon-Knight	Aug. 13		Nov. 12	Reo	July 2
	Jan. 7	Packard	Sept. 10		Aug. 6
Ford	Nov. 26	Paige	Aug. 13		Dec. 24
Franklin	Oct. 8	Pierce-Arrow	July 23	Ruggles	Sept. 10
	Jan. 7		Nov. 5	Selden	July 23
Gardner	Aug. 20	Pontiac	Jan. 7	Sterling	Dec. 24
	Jan. 7	Reo	Oct. 8	Stewart	Aug. 27
Hudson	July 16	Stearns-Knight	Jan. 7		Nov. 12
	Jan. 7	Studebaker	July 9	Stutz	Dec. 24
Hupmobile	Aug. 27		Jan. 7	Velie	Oct. 1
	Oct. 29	Stutz	Dec. 31	White	Nov. 12
	Jan. 7	Velie	Nov. 5		Dec. 10
			Jan. 7		

In a majority of cases today it is the woman who actually dictates when and under what circumstances the new automobile will be bought. And she is often just as competent to pass judgment on the value of the car as is her husband



SHOPPING *with the* Ladies at the Show

Wherein we find fresh evidence to prove that "The hand that rocks the cradle buys the cars."

By R. L. Cusick

TIME was when it may have been necessary, in trying to sell a car to a woman, to use an entirely different automobile language than was employed to sell the same car to friend hubby, but, apparently, "them days is gone forever."

That is the impression at any rate that one gets from observing how the average woman of today who is interested in cars acts at an automobile show, and from "listening in" on her conversations with salesmen.

The observing in this instance was done at the 1928 New York show and if the women in the cast were not of the average type it can be due only to the fact that they were from New York, where, of course, everyone is supposed to be extremely sophisticated and wise in all things. But human nature is pretty much the same the world over and it is very likely that the women in New York and New Mexico are about on the same level in regard to automobile tastes and knowledge, inasmuch as there is plenty of opportunity in both cases to study the subject.

"Now," said one woman whom we overheard talking

very earnestly to a salesman, "what is your gas and oil consumption?"

Being told, of course, that it was quite low in each case, she accepted the statement without argument but came back at the salesman like this:

"Well, how about the springs? I remember that my father once had a car like this and the springs were terrible. It was the most uncomfortable car on rough roads that I ever rode in. It went just like this——" and she indicated with her hands a series of jolts that must have been devastating.

Of course that had been remedied long ago, the non-plused salesman told her. Wasn't it an old model, about the year so-and-so? Well, that model did have poor spring suspension, but never would she find a pleasanter riding job than the present one.

"Three's a Crowd"

It happened to be a coupe and the woman prospect suddenly asked if three persons could ride in the seat.

"Very comfortably," the salesman said. Whereupon

the woman immediately climbed inside, behind the driver's wheel, to see.

"Well, I shouldn't like to ride with three in here for very long at one time," she said. "The seat is, of course, plenty roomy for two but I don't think it will accommodate three with comfort."

And that was that. The salesman could not very easily argue that the seat was larger than she had definitely proved it to be.

An interesting scene on the fourth floor of the Palace had as its principals a husband, a wife and a truck salesman. The husband was a prospect for a truck sale. He was in the trucking business. But one gathered from the conversation that his wife was in it too. She asked as many questions about the truck as her husband, and when the transaction reached the instalment terms stage she pushed the other member of the household right into the background. It was easy to see who held the pursestrings in that family.

And it seems to be at this point in nearly all negotiations for the sale of a car that the woman in the home comes prominently into the picture. Most arguments to the contrary notwithstanding, a woman is usually more practical about money matters than a man, and she wants to see the figures in black and white and give them careful study, with the family budget very much in mind, before reaching a decision.

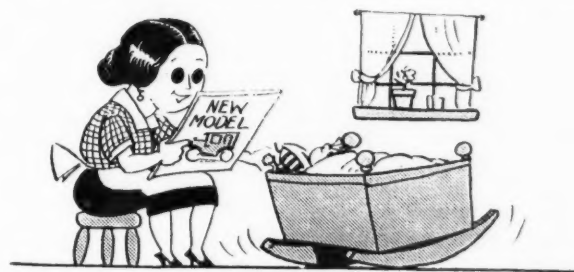
Men Don't Always Know

It would not be literally true to say that the knowledge of cars among women is as high as that among men, but it undoubtedly is a fact that a great many men who have owned and driven a car for years really know very little about its mechanical value and are about as helpless as most women when it comes right down to passing judgment on the worth of its design and construction.

Therefore, when the many men in this class go out to buy a new car they are influenced by about the same factors that influence the wives. Among these may be listed, the personality and ability of the salesmen with whom they come in contact; the size of the trade-in allowance on the old car; what they have heard their friends say about various cars; what they have read in the automobile advertisements; the price; the seating capacity and power; the color; the standard equipment and general appointments.

Naturally these factors are not always given the same values. Thus the man is likely to attach great importance to power and speed, while his wife is generally more interested in the color scheme and upholstery and the little doo-dads that give distinction. The automobile manufacturers, of course, have sensed these desires and have been meeting them with increasing success for several years. There is more power and speed for the husband and improved appearance for the wife. Both get what they want.

It is a tribute to the industry that the public seldom



"The hand that rocks the cradle buys the cars"

has occasion any longer to question the mechanical performance of any automobile. It is accepted as a foregone conclusion that they all will give reliable, economical service, regardless of price, and it is quite proper therefore that the decision as to which to buy should depend almost entirely on price and appearance. And such being the case, the average woman is just as well qualified to pick a car as is the average man.

As is always the case, women turned out for the show in large numbers. They plied the salesmen with every conceivable question and seemed to take a keen interest in "watching the wheels go round" on the various stripped chassis which were exhibited in operation. They also spent a great deal of time among the accessories and took the time to inquire about the value and construction of such items as oil and fuel filters and other devices designed to give more economical operation.

At the several points in the show where lecturers held forth the women were almost as much in evidence as the men. Three unescorted young ladies were observed in the front row of a crowd that was listening to an illustrated talk on the principles underlying the design of a certain type of engine. They appeared enthralled, but it may have been the lecturer. At any rate they lingered long after most of the others in the assemblage had passed on and had been replaced by newcomers.

As evening passed and night came on parties in evening dress began to drift in and the women in their low-cut gowns crowded around the exhibits and in many cases took advantage of the opportunity to rest in the soft upholstery of the expensive models. But regardless of their means, their interests usually lay in the same direction as those of their, perhaps, slightly more plebeian sisters of the afternoon—colors, upholstery, vanity cases, nickel trimmings, comfortable seating arrangements.

Irrespective of social status, it has come to be pretty generally recognized during the last several years that "the hand that rocks the cradle buys the cars,"—a great many of them anyhow.

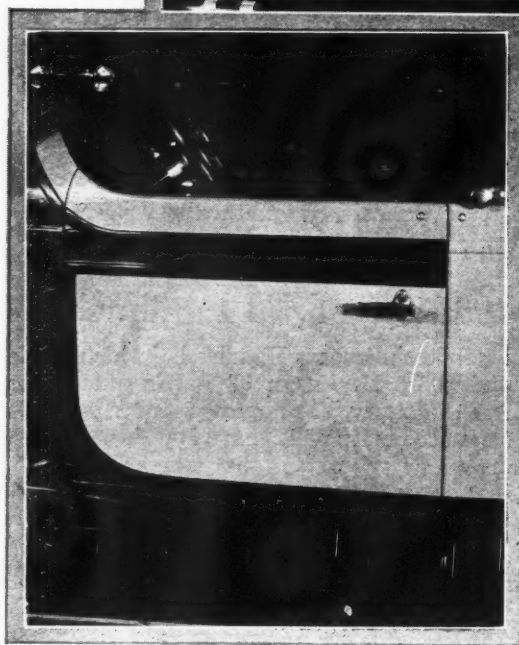
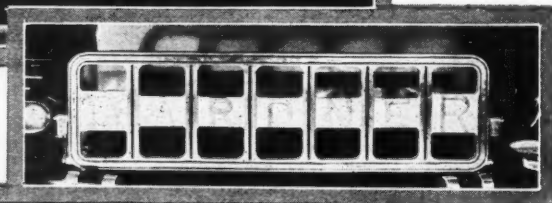
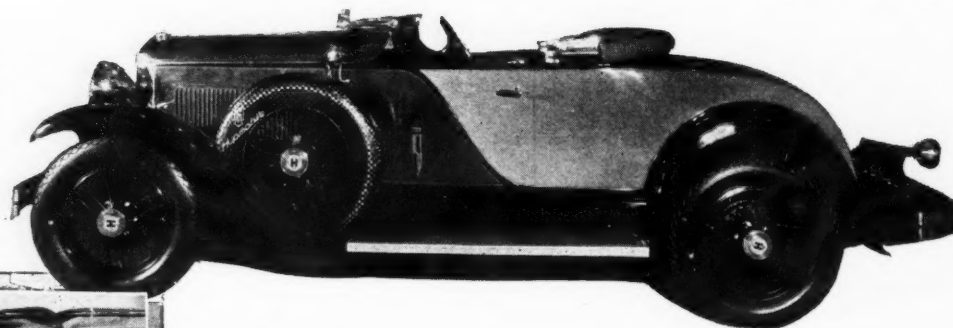
All manufacturers have learned that in a majority of cases it is the woman who actually dictates when and under what circumstances the signature is scrawled on the dotted line.

New Edition of "Handbuch"

THE Automobiltechnisches Handbuch, which has been published by M. Krayn of Berlin since the early years of the industry, has appeared in its twelfth edition, under the editorship of Richard Bussien. While the contents are to a large extent the same as those of the eleventh edition, which was reviewed in these columns at the time of its appearance, some of the chapters have been entirely rewritten and new ones added, so that the book is larger by about 300 pages.

We notice especially a chapter on "Materials for Automotive Construction" by Chief Engineer M. Dobberke. It is seen from this that the German Engineering Standards Committee has begun to issue physical property charts of the steels standardized by it, which is of particular interest at the present moment when the question of canceling such charts is to come before the S.A.E. "Brakes and Their Calculation" is a new chapter by W. Loewenthal. There is also a new chapter on "Portable Oil Engines" by L. Hausfelder, but this appears to be identical with the series of articles published in *Der Motorwagen* about a year ago.

Right—A sportive roadster displayed by Hupp. Note the bizarre color treatment and use of medallions on front doors. Below—English-type side curtains are provided on a Chrysler phaeton



Above—Very interesting color treatment is employed on this Gardner sport car. The lower band extends to the rear fenders



In center—Gardner utilizes the space afforded by its folding trunk rack, when it is not in use, for publicity

Similarity Found of Body

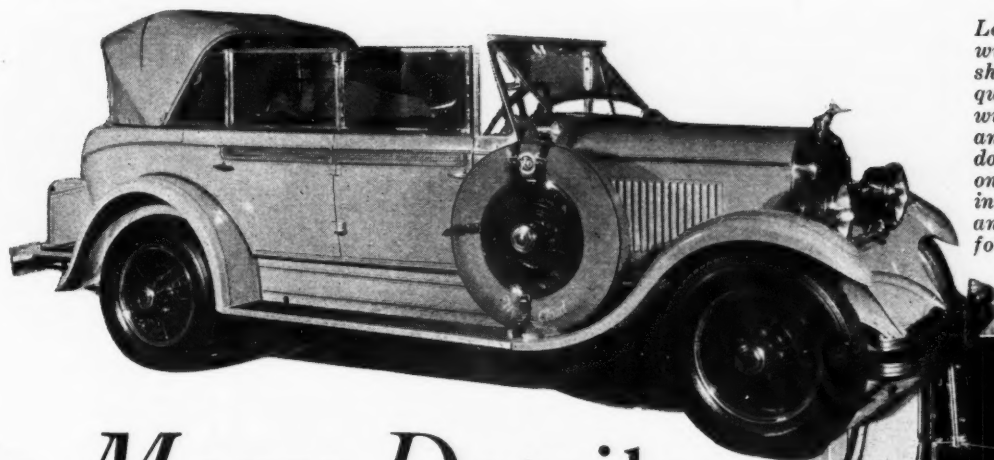
Many designers apparently thinking along same lines. Deep, narrow radiator shells popular. Effort made in most cases to vary arrangement of hood louvres.

A MOST surprising feature of automobile shows is the speed and unanimity with which body designers adopt for their cars certain design features which they all believe apparently will prove popular with the public. Each year's display includes a considerable number of makes of cars on which appear for the first time certain design features which have been entirely unknown or, at least, little used at any previous shows.

This year, in addition to the continued effort to provide bizarre yet pleasing color effects and to originate an interesting belt and molding treatment a number of design features, discussed in subsequent paragraphs, are to be found on from five to 15 or more makes of cars displayed at the show. While not all of them appear this year for the first time, none of them have been employed to any great extent in previous years.

A few of these features, whose general adoption indicate how closely body designers are checking with the desires of the public in wanting more convenience, beauty and comfort are: Coincidental locks; deep, narrow radiator shells; hood louvres which vary in some way from the conventional design of past years; narrow body pillars to provide unobstructed vision; form-fitting or saddle spring seats; adjustable steering columns; adjustable front seats; chromium plating for exposed metal parts; cowl lamps mounted on a polished metal surcingle passing over the body and marking the division line between cowl and hood; wide, one-piece fenders.

In the more than 200 body models being shown color harmonies play a very important part as they have in



Left—A sporty Reo phaeton with tonneau cowl and windshield cabriolet top over rear quarter, slanting, swinging windshield, boat-shaped rear and wicker panel across the doors. Below—The molding on this Lincoln coupe is reminiscent of town car practice and is typical of the practice followed by several makers

in Many Details Design

By K. W. Stillman

the past two shows. There are no very distinct trends indicated in this year's display as to the future of color treatment since by nearly every maker, and sometimes on each body model, a quite individual treatment has been employed which, it seems, agrees only by chance with the methods employed on bodies of other makes or even on other bodies of the same make.

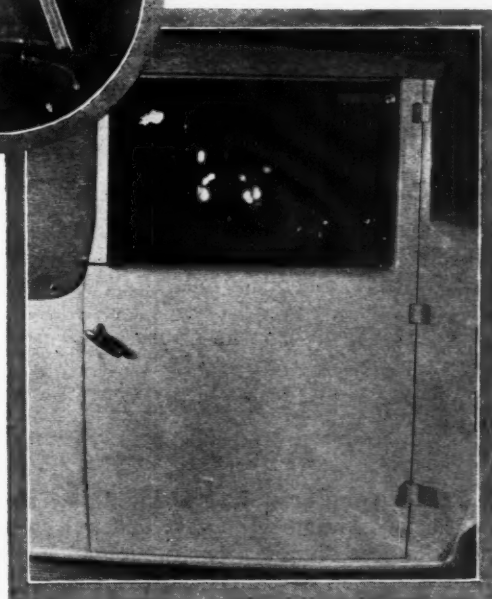
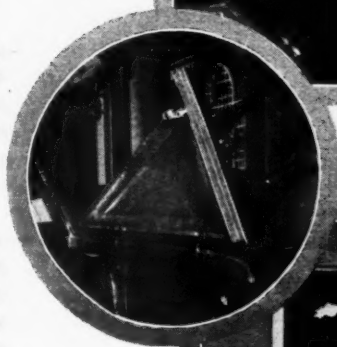
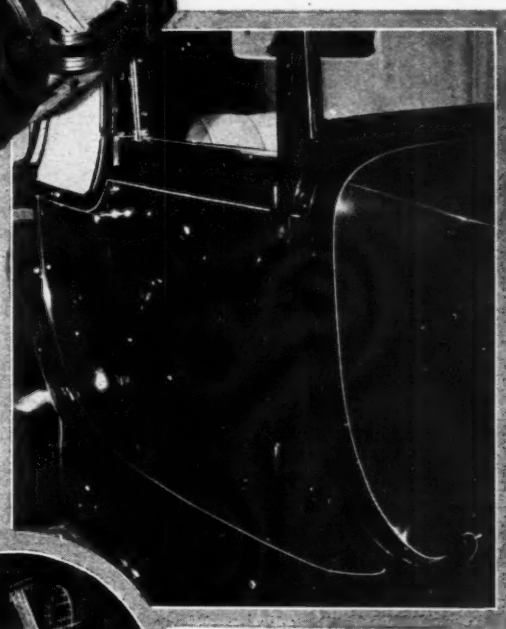
The same general expression applies equally to moldings and belts. There is no one treatment which offers entire satisfaction but each designer apparently has endeavored to develop a quite original treatment which will still be in perfect harmony with the rest of the design.

A census of the main colors used on bodies indicates that shades and tones of green are most popular, with blues following in very close order, with 29 per cent and 23 per cent of the total respectively. Then come grays with 12 per cent; browns and tan with 11 per cent; black with 9 per cent; red with 9 per cent and yellows and cream with 7 per cent.

An interesting point in this tabulation is the relative popularity, at least for show purposes, of black. There are so many gorgeous colors filling the display booths that an all-black car with, possibly, fine hairline stripes of a light color, becomes very conspicuous and, of course, for real richness of appearance there are few color treatments which equal jet black.

The importance which color has in car sales is well evidenced by the fact that over 50 per cent of the exhibitors permit full color options on their models without extra cost. In addition to these there are a number of makers which provide from two to five so-called standard color options on each model so that usually the prospective purchaser of a car is favored with a relatively wide choice of finishes to harmonize with his wife's fur coat, her complexion or any other desirable combination.

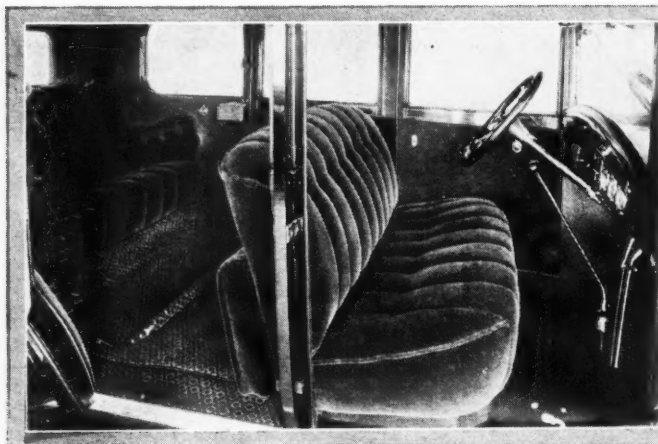
It should be added that in connection with the color census referred to above there is a strong possibility



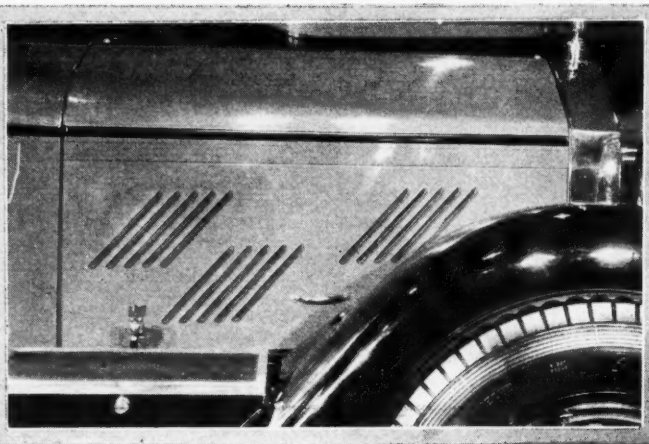
Above—Following a general European practice, the doors of this Gardner coupe are extended to the running boards to eliminate valances



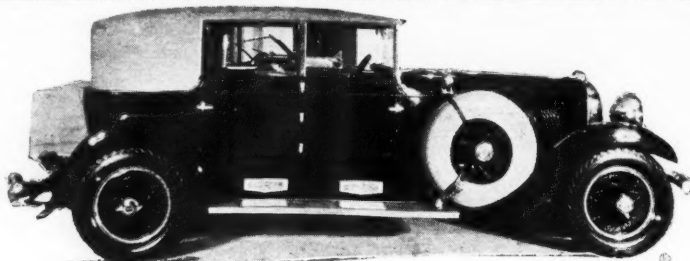
In circle—A Chrysler sport phaeton has a divided tonneau cowl and windshield so that entrance is facilitated



Above — Form-fitting seats such as are used in this Buick sedan are almost standard equipment at the show this year



Above — The method employed by Stearns-Knight to achieve originality in louvre design and arrangement. Left — The Auburn convertible sedan



of confusion in attempting to decide which is the main color employed on a particular car. In many models two colors are used in approximately equal proportions—one covering the hood and cowl and being used for trim while the second and contrasting color is employed on the body proper. This treatment was probably employed first on the La Salle but has now been adopted in modified form by a number of makers. Another rather startling color treatment is to have the body, cowl and hood in one color with a 3 or 4 ft. band of contrasting color swept down across the middle of the body. Sometimes the margins of this wide band are straight and vertical but in at least one sport phaeton was given a distinct flare back and downward which very greatly enhanced the "sportiveness" of the model.

Following the trend of public demand indicated at the last salon, convertible models play a much more important part in this year's show than ever before. Nearly 10 per cent of all bodies shown are of the convertible style and about half of all makers are now offering at least one model of this type. Some of them are very interesting, too, the Auburn 8-88 convertible sedan, for example, appearing to be the equal in general utility and engineering design of anything which was displayed at the last salon.

Same Features on Many Cars

Possibly the most interesting thing about this show is the large number of new features which have been more or less simultaneously adopted by many makers. And the price at which the car sells appears to offer no indication as to what features may be found on it as they are scattered throughout all price classes.

Coincidental locks are to be found this year on Buick and Pontiac, Stutz and Essex, Studebaker and Erskine, among others.

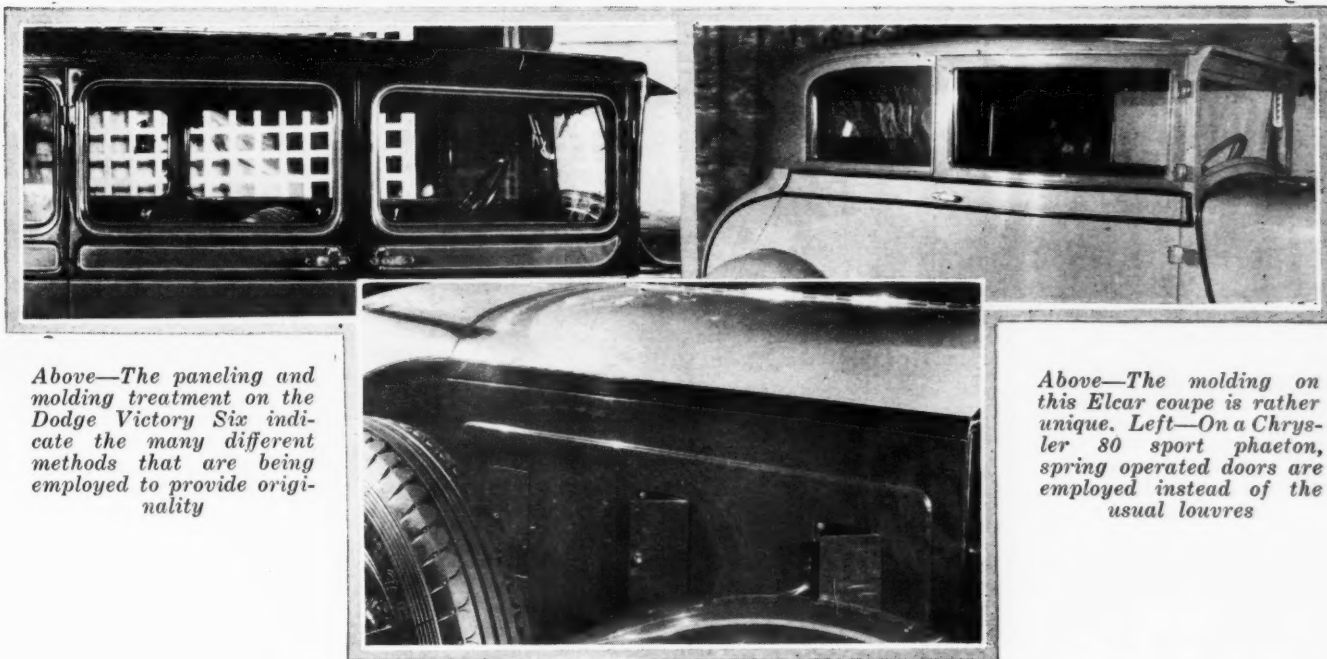
An effect of great depth and narrowness of radiators, obtained sometimes by actually changing the radiator dimensions and in other models by providing a false bottom, may be found on Marmon and Chevrolet; Cadillac and Dodge, Packard and Pontiac, as well as many others.

Relatively few are the makes of cars today which follow the one-time conventional practice of arranging hood louvres. In fact, those that do stand out from the crowd of variations which have been developed to give cars that look of individuality apparently so desirable. All sorts of combinations are employed, including vertical, horizontal and slant groupings of four or five louvres and various other means of obtaining proper air openings without employing the old-time methods. On one Chrysler model the louvres consisted of sets of three spring-operated doors which, when closed, were set flush with the body, a method similar to Packard practice for several years.

Narrow body pillars to provide clear vision continue to get attention with very satisfactory results and there are numerous makes of cars in which the front corner pillars at least have a maximum width less than the pupillary distance between the eyes, which is the desideratum. In all-steel bodies such as the new Dodge Victory models, this feature is quite evident, but many users of composite bodies have achieved the same end by employing bronze castings or similar structures at the front posts. Not so much attention has been given to between-the-door pillars, however, and many of them are still too wide to provide clear vision to rear seat occupants. From a safety standpoint this is not of great importance but it should be more pleasant to ride in those few cars which have also made their center pillars as narrow as possible.

Seat cushions which slope down from the front to provide support beneath the knees have been adopted by such makers as Buick, Chrysler, Essex, Falcon, Hupmobile, Marmon, Oldsmobile and Moon and should go far in making long rides more comfortable.

Realization of the very decided lack of standardization in the length of human legs is growing among designers so that more and more models are being provided with one or more means of adjustment for fitting the driver to his controls. Adjustable front seats, usually only the driver's half, are found now on many cars such as Chrysler, Buick, Erskine and Falcon-Knight. Pedals which are adjustable for length are



Above—The paneling and molding treatment on the Dodge Victory Six indicate the many different methods that are being employed to provide originality

Above—The molding on this Elcar coupe is rather unique. Left—On a Chrysler 80 sport phaeton, spring operated doors are employed instead of the usual louvres

furnished in Marmons, Kissels and Franklins, among others; while adjustable steering columns are provided by Buick, Franklin, Hupmobile, Marmon and Chrysler, in some models, at least.

Chromium plating of exposed metal parts is being quite generally adopted, while windshields, hinged at the top and swinging outward, are being used on an increasingly large number of models. The polished metal surcingle dividing the hood from the cowl has been used for several years in the custom bodies exhibited at salons, but this year, for the first time, finds it being used to good advantage on production cars. Usually the band supports the cowl lights and, in many cases, if extra wheels are standard equipment, the surcingle branches to form supports for the wheels on each side of the car.

Wider fenders with full crowns and increasing use of one-piece stampings are noted this year. Armrests for the outside of rear seats, and frequently a folding armrest for use with only two rear seat occupants, are another feature of past custom body practice generally adopted this year on production cars.

In addition to the items mentioned before which have been adopted by enough makers to indicate a trend, there were a number of original developments or adaptations found on particular cars which may or may not be adopted generally.

Entrance to the rumble seat on one Chrysler 80 model is made by a full door, following the practice employed by Auburn for several years. This rumble seat also has a folding cowl, half of which can be raised to effect easy entrance, but when lowered affords protection to the occupants.

A new fabric-like product furnished in colors and various designs is being used for interior linings, tops and tire covers. This is a fabric impregnated with pyroxylin with an embossed design and so treated that it is flexible and will not crack or break even when used on collapsible tops. It permits a much greater range of colors and designs for top materials than has been available heretofore.

A few cars, such as some duPont models and Reo, have no interior top lining but the slats are finished and left bare, another result of salon influence. The only belt employed on some cars is a short wide panel

finished in colors in high contrast to the main body color, and located on the doors just below the windows. On other cars the same effect was gained by extending the panel to the windshield at the front and to the rear pillar, breaking it off sharply at both points by a molding in a third color.

A Gardner coupe adopts a general European practice and extends the doors clear to the running board, thus eliminating the valance. Another Gardner has a unique color treatment. The hood and cowl and the main body are finished in two contrasting colors, but the former is extended over the main body color as a 3 or 4 in. panel directly under the windows and extending back to the rear of the front door, and as a belt just above the bottom rail.

Headlamps on Posts

On the Hudson and one or two others the headlamps are mounted on posts. The Elcar sun visor consists of an adjustable curtain behind the windshield. Several coupes equipped with rumble seats are provided with rear windows which may be lowered to establish communication with the rumble seat occupants. A Hupmobile body in which the hood and cowl and the body panels are finished in contrasting colors has medallions on the front door. A very sporty phaeton equipped with tonneau cowl and windshield and a cabriolet top over the rear seat is also being shown by Reo. On a Chrysler sport phaeton there are louvres in front of the rear doors to provide ventilation for the rear compartment.

A very interesting body design is the new Dodge Victory Six which is of all-steel construction but quite different from that usually employed. Following Weymann body practice the seats are mounted directly on the frame of the car and the body acts only as an inclosure. Body sills are eliminated, thus saving some 2 in. in height, and the body is suspended from the frame rather than being mounted on it. A double construction is used for the body panels and a layer of felt is attached to the inner layer which quite effectually deadens all metallic noises which sometimes become present in steel bodies.

These bodies are being made by the Edward G. Budd Mfg. Co.

Here and There

GRAND CENTRAL PALACE, NEW YORK, Jan. 12 —The big turnout of executives on the opening day of the show was an evidence of the unusual interest on the part of the industry as well as the public in the new cars. Glimpsed on an hour's tour of the exhibits: Lawrence P. Fisher and Lynn McNaughton; Fred S. Fisher critically examining the Buick display; Frederick J. Haynes, A. R. Erskine looking over the new Whippets; A. R. Glancy and W. R. Tracy, and B. W. de-Guichard. Nearby, in the lobby of the Roosevelt, Ray A. Graham looked pleased as he surveyed the display of Graham-Paige models.

* * *

Bang!

The upper floor of the Palace on opening day produced sounds reminiscent of a distant battle. The banging of the shock absorber exhibits represented the heavy artillery; hammering recalled the lighter guns, while the miscellaneous sounds from the shop equipment exhibits completed the illusion.

* * *

For Baseball Fans

It remained for the two St. Louis companies, Moon and Gardner, to keep the memory of the Browns before the baseballers of the industry. There was no question about the brownness of those two St. Louis models.

* * *

Strikes and Spares

Somebody looking at one of the new Chevrolets from an acute visibility angle said the car looked as long as a bowling alley. That ought to strike Chevrolet pretty good.

Hello, Harry!

Harry Moock, manager of Greater Market Development for the Automotive Equipment Association, appeared in the Shop Equipment Section with a large red official identification badge which read: "MOOCK—JOBBER—CHICAGO."

* * *

Now You Tell One

Probably more of the visitors than usual wanted to know where the Ford exhibit was.

* * *

Ask Me Another

One young lady of an inquiring turn of mind was heard asking at the Graham-Paige booth, "Which one of the gladiators on this radiator emblem is supposed to be Joseph Graham and which one Ray and which one Robert?" Seems as though the Ask-Me-Another craze is extending even to automobile shows.

* * *

Out in Force

The Studebaker officials came to the show early and apparently looked it over from all angles. Not only were A. R. Erskine and Paul G. Hoffman in evidence during the opening hours, but also numerous representatives of Studebaker's now large engineering and research staff, including D. G. Ross, W. S. James,

E. C. Newcomb and J. M. Hughes. A. J. Chanter, recently appointed manager of branches, also was among the early arrivals. Miller McClintock, director of the Albert Russel Erskine Bureau of Traffic Research, moreover, was found ensconced in the driver's seat of a Studebaker truck discussing with a friend new ways to eliminate traffic difficulties.

* * *

Here's the "Low-Down"

Several couples had a lot of fun nodding at each other from opposite sides of the Dodge Brothers Victory Six sedan. The top is so low that tall persons standing on opposite sides can easily see each other's faces.

* * *

Versatile

The adoption of standard gear shift by Buick and Dodge was deplored by a young man who boasted of his ability to drive in succession a Dodge, Buick and Packard when each of these models had a different arrangement of gear shift positions.

* * *

Truth in Advertising

At one car exhibit a hatless layman was mistaken for a salesman by one of the cash customers who shyly approached him with the quaint query, "How fast does this car go at 60 miles an hour?" Salesmen who overheard the remark laughed heartily but were cut short with bystander guffaws when the hatless one, coming to the rescue of his fellow cash customer, said: "It happens that I am familiar with this company's newspaper advertising. This car at 60 miles an hour goes 75."

TOO bad Richard Bennett was not playing New York during the show. He could get a pointer or two from that accomplished showman, F. W. Koch, who was ballyhooing the Whippet on the balcony.

at The Show

Walter Was There

Walter P. Chrysler, Joe Fields, Earl Wilson and Big Bill Mat-timore were much in evidence both at the Chrysler booth in Grand Central Palace and at the de luxe special exhibit in the Commodore.

* * *

And So Was Fred

Fred Kast, of Firestone, was one of the earliest arrivals. He had the tires counted long before the first paid admissions began to trickle in.

* * *

Vital Statistics

This show census showed up a number of interesting things, among them a great increase in the number of models on exhibition with wire wheels. The increase in the number of straight eight models, of course, also was chalked up, while the practically universal application of four-wheel brakes as standard equipment also was recorded.

* * *

Ford's There Now

E. L. Cord headed an Auburn delegation numbering about 10 which went down to the New Madison Square Garden the night before the show opened to see Tommy Loughran defend his light heavyweight championship against Leo Lomski. Among those in the party were N. E. McDarby, general sales manager, and H. G. Hersh, advertising manager, as well as Bill Teefy and Ad Seltz, Auburn distributors in Philadelphia. The Philadelphia contingent is said to have been close to heart failure during the first round when their fellow townsman spent

most of his time on his back, but recovered quickly as chances of their being able to buy a return trip ticket improved.

* * *

The Vamp!

One of the handsomest men at the Studebaker dinner was Clint Miller, who has charge of the commercial car business in the Philadelphia territory.

* * *

The Cadillac Crowd

At the Cadillac booth early visitors were greeted by a reception committee of Cadillac officials, including Larry Fisher, Steve Stephens, Bill Lewis and Jesse James.

* * *

A Tricky Job

Bill Smith was kept busy showing off the many interesting tricks incorporated in the new du Pont.

* * *

He Got a New Boss

Fred Van Fleet was handicapped by the fact that things were happening at the Peerless factory in Cleveland the day the show opened.

JAKE NEWMARK was one of the first to arrive and one of the last to leave the show on opening day. On leaving he was heard to advise all and sundry to take a good look at the new Durants.

A Chrysler Novelty

A ballyhoo novelty was introduced by the Chrysler Corp. at its special exhibit in the Commodore Hotel lobby. Instead of following the ordinary procedure of having a man in person stationed at the cutaway chassis to explain details and features, Chrysler made use of a radio loud-speaker and amplifying unit.

* * *

Eddie Gets a Winner

Captain Eddie Rickenbacker as the new assistant sales manager of Cadillac Motor Car Co., specializing in La Salle sales, found himself with a main floor exhibit for the first time in some years. Even a noted aviator likes his cars as close to the ground as possible in Grand Central Palace.

* * *

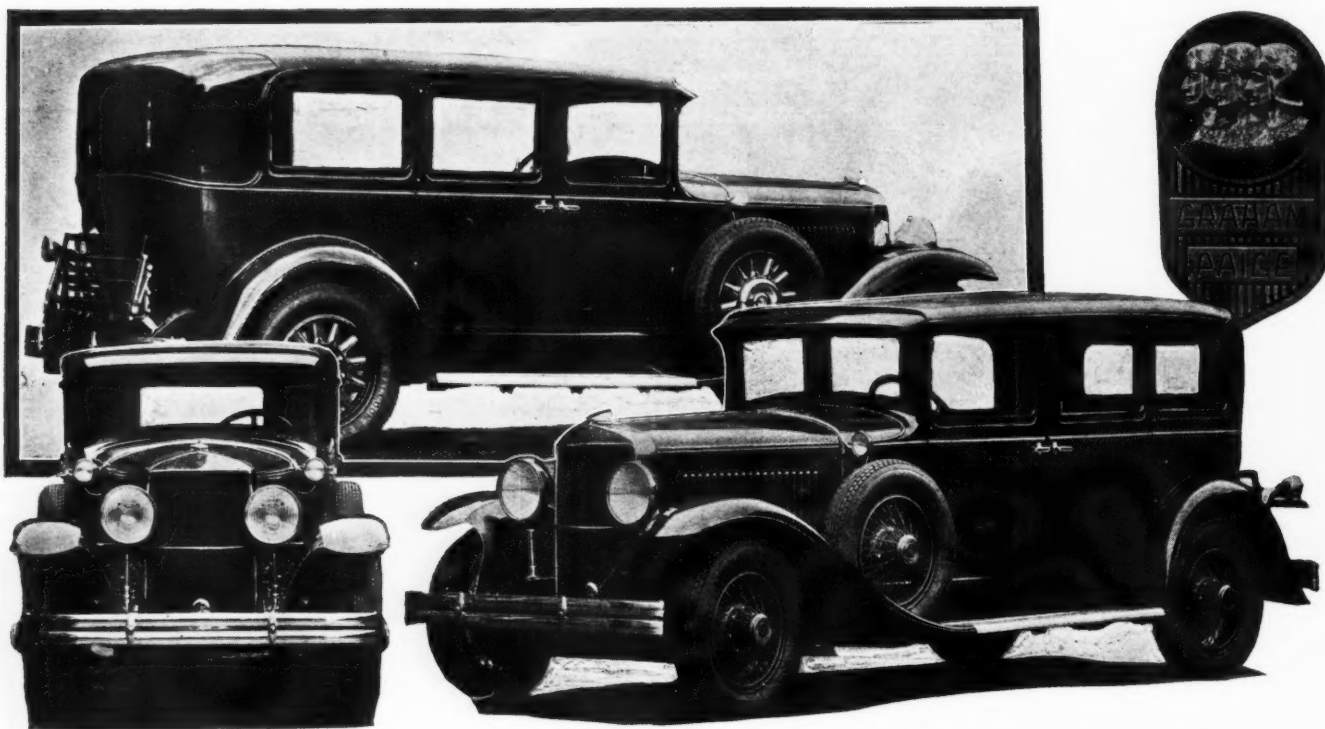
Looking 'Em Over

There were no more interested spectators at the show on the opening day than the officials of various car companies. Nobody stayed in his own booth for any length of time. Each executive seemed bent on peering into the insides of his competitors' show product as much as possible. The president of one of the biggest car companies was a conspicuous figure for several minutes as he sat on a box in a competitor's booth and asked questions of perspiring salesmen.

* * *

Railroad Prosperity

The Detroiter came in on Saturday morning in five sections bearing an unusually large number of automotive brains and abilities. Among the leaders of the industry who came in from the West on the opening day of the show were Alfred P. Sloan, Jr., Lawrence Fisher, Robert Graham, E. G. Wilmer, Eddie Rickenbacker and a host of others.



The photographs of the new Graham-Paige models which are reproduced above show how completely the former Paige line has been changed. The nameplate which has been designed for the new product is seen in the upper right-hand corner

Graham-Paige Among New Models Announced at Show Opening

Other jobs not previously described displayed by Oakland,
Reo, du Pont, Marmon and Locomobile

By A. F. Denham

NEW models on display at the show and not previously described in *Automotive Industries* include:

Graham-Paige

FIVE chassis models are the offering of the Graham-Paige Motors Corp. for 1928. The introduction of the new lines which have been completely revised and redesigned, mark the completion of the reorganization by the three Graham Brothers subsequent to their purchase of the Paige-Detroit Motor Car Co. The new lines will be marketed under the name of Graham-Paige. Of the five chassis models four are sixes, the fifth being a straight eight. Prices will not be announced until the latter part of the New York Show Week.

Complete modernization of design features the new lines. Body lines conform to the latest accepted standards of beauty. Equipment on all models includes such items as shock absorbers, bumpers, dash gasoline gages and engine thermometers.

In mechanical design such items as seven-bearing

crankshafts in the sixes, four-speed transmissions in all but the smallest model, cushioned and damped clutches in the three larger models, and hydraulic four-wheel brakes and fuel pumps are features.

The smallest chassis, the 610, has a wheelbase of 110½ in. The next, called the 614, has a wheelbase of 114 in. Models 619 and 629 are also sixes, with wheelbases of 119 and 129 in. respectively, while the 135 in. eight is called the 835.

All of the sixes have new L-head engines, designed by Graham-Paige. Except for frames and tires, chassis models 619 and 629 are identical.

Engines are all of the L-head type and are fitted with light aluminum alloy pistons having invar struts. Engine dimensions are as follows:

Model	Bore ins.	Stroke ins.	Displacement cu. in.
610	2⅞	4½	175
614	3⅞	4½	207
619	3½	5	288
629	3½	5	288
835	3¼	4½	299

The six-cylinder 3½ by 5 in. engine develops 97 hp. at 3200 r.p.m. It has crankpin journals 2⅜ in.

in diameter, and its piston pins are hollow and 1 in. in diameter. Pistons are fitted with three rings; the upper two are $\frac{1}{8}$ in. wide, while the lower is a $\frac{3}{16}$ -in. oil control type ring.

Camshaft drive is by a silent chain provided with automatic idler tension adjustment. The width of this chain is $1\frac{1}{2}$ in. and it has 110 three-eighths in. pitch links, giving it a total length of $41\frac{1}{4}$ in.

Engine suspension is of the four-point rubber cushioned type. A Lanchester vibration damper is mounted on the front of the crankshaft. Electrical units are all of North East manufacture with semi-automatic advance for the distributor and with Bendix type starter engagement. A 17-plate 114 amp.hr. storage battery is used. A $1\frac{3}{4}$ in. vertical outlet type carburetor has been adopted, on the air intake of which is mounted an air cleaner. Fuel is supplied by a fuel pump driven from an eccentric on the camshaft.

Incorporated in the double plate clutch is the torsional vibration damping mounting and coil spring drive. Mounted in unit with the engine is the four-speed transmission. Direct drive is on fourth with reduction ratio for third speed of 1.42 to 1. Metal universal joints and tubular propeller shaft provide the drive to the rear axle. On the 619 model the axle reduction is 3.046 to 1.

Brakes on models 619 and 629 are internal expanding hydraulics on all four wheels, with automatic re-

filling. On the same models the front springs are 38 in. long and 2 in. wide, while the rear springs are $2\frac{1}{4}$ in. wide and have a length of 58 in. Watson Stabilators at both front and rear are included in the standard equipment.

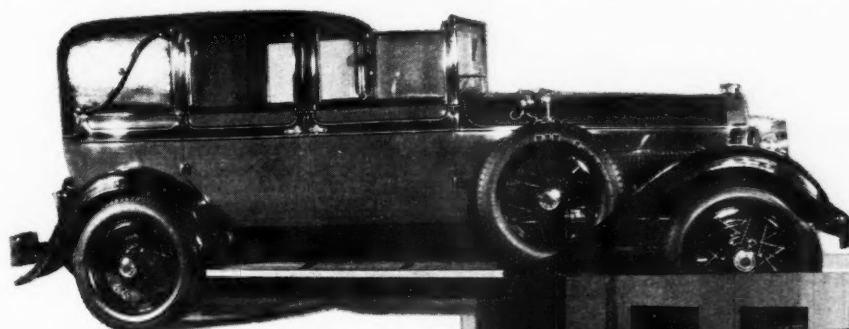
While wood wheels are standard on the 619, six disk wheels are supplied on the model 629, the two spare wheels being carried in fender wells. Tire size on the 629 is 31 by 6.00 in. and the tires are mounted on 19 by $4\frac{1}{2}$ in. rims. On the 619, 29 by 5.50 in. tires are used.

Additional Equipment

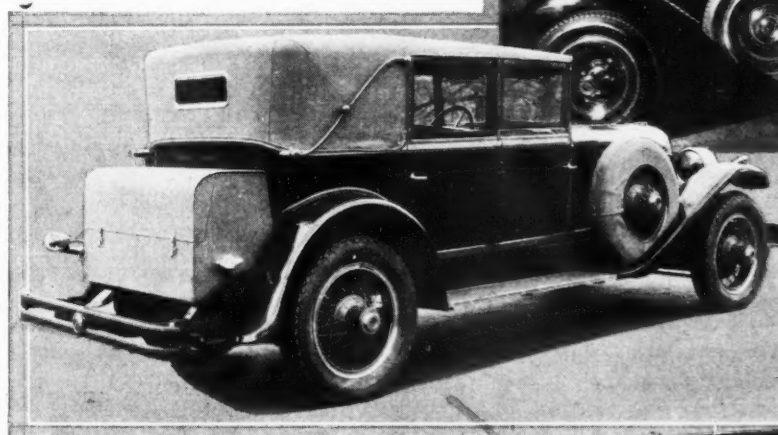
Included in the standard equipment of both models, in addition to items already mentioned, are an automatic windshield wiper, front and rear bumpers, a rear view mirror, a combination tail, stop and backing-up light, an electric clock, an engine thermometer and a fuel gage. Additional equipment on the 629 models includes a cigar lighter, a vanity case, a smoking set and a folding trunk rack.

In general, the description of the 619 and 629 models holds good for the other two six-cylinder chassis, with modifications in accordance with their smaller size. The lowest-priced model in the line will be the 610. This has engine similar in general design to the larger units and developing 52 hp. at 3100 r.p.m.

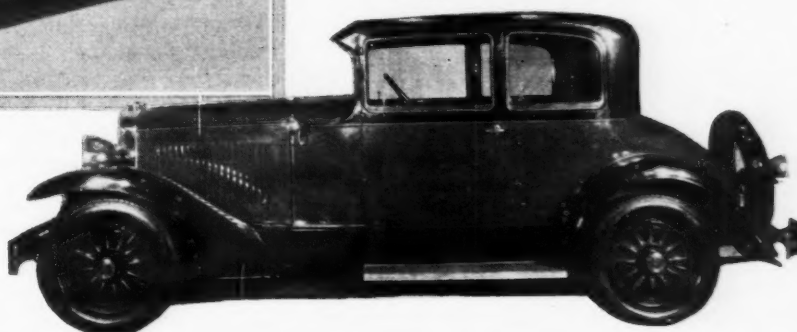
Single plate clutches are used on both of these



Above—Locomobile had on display this distinctive-looking cabriolet

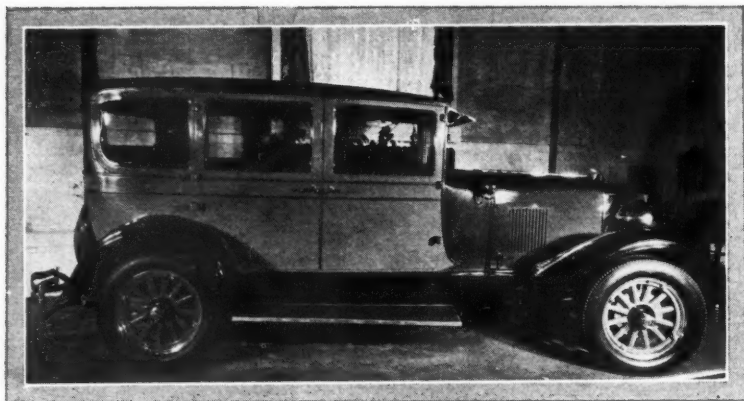


Left—The du Pont convertible sedan created a favorable impression. An unusual effect on this car is obtained by enameling the radiator shell



Right—The new Graham-Paige coupe

Below—The four-door sedan in the new Graham-Paige line, of which the four-speed transmission is a feature



A brand new model at the show was this Durant Six, the Model 75. There are also two other sizes this year with the Durant nameplate

smaller models, while the 614 also has a four-speed transmission.

Brakes on the two smaller sixes are external hydraulics. Springs on both 610 and 614 are 36 in. and 54 in. long, respectively, for front and rear. Frames are of pressed steel, and 5½ in. deep. Wood wheels are standard on both models, with 29 by 5.00 in. tires standard on the 610 and 29 by 5.25 in. on the 614.

Standard equipment on the 610 includes, in addition to the usual items, a rear view mirror, an automatic windshield wiper, an air cleaner, an engine thermometer and a dash gasoline gage.

Aside from the engine, mechanical changes on the straight eight are minor in character. The clutch incorporates a vibration damping mechanism and the four-speed transmission is continued.

Brakes have been changed from external to internal hydraulics, and they now have 15 in. drums, and include the automatic refilling system. The emergency transmission brake is retained. Disk wheels, with two spares mounted in fender wells, and provided

with locks, are standard, demountable wood and wire wheels being available at extra cost. Tires are 31 by 6.20 in. balloons.

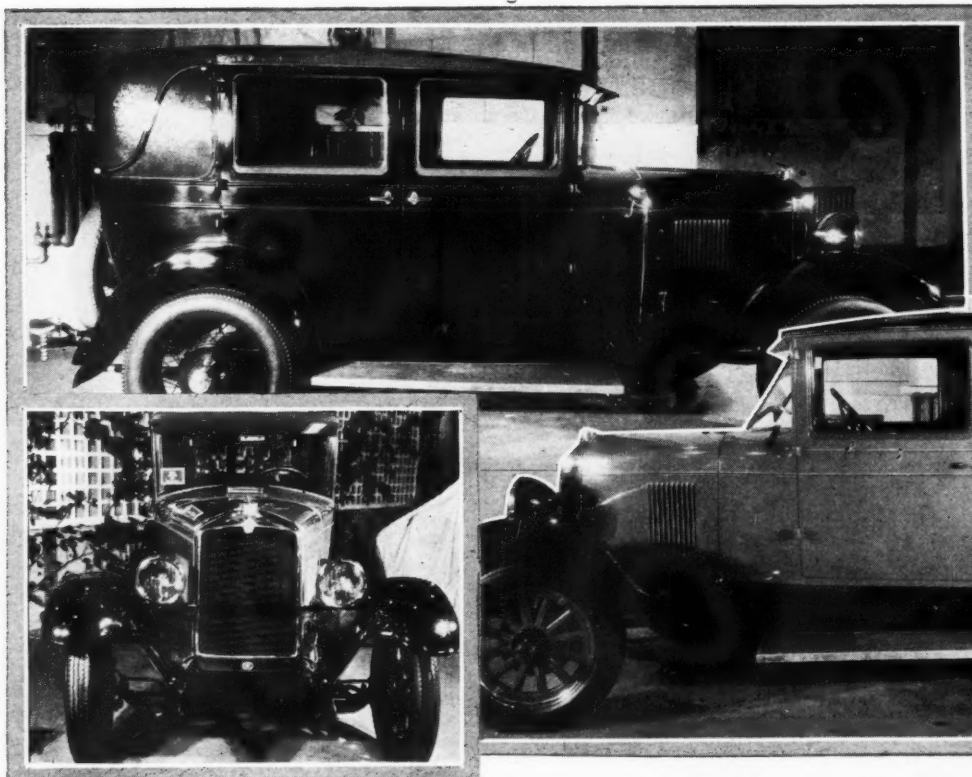
Reo

For the first time since the introduction of the Reo Flying Cloud line last spring this chassis is now available in a touring car model, a five-passenger sport touring job. It is upholstered in red grain colonial leather, has a victoria top and English type windows, crank operated. The top itself is of the disappearing type. Finish of the model exhibited at the show was in gray with pin striping in red on the fenders and splash shields in addition to the body striping proper. A red wickerwork panel is included between the upper and lower body belt moldings.

Both the Flying Cloud and the Wolverine lines are continued unaltered mechanically for 1928.

du Pont

Several interesting features are found on the new du Pont models exhibited at the show. On the new 136-in. wheelbase chassis a four-speed Warner-Gear Hyflex transmission is used in combination with mechanical units otherwise identical with those of the "E" series. This transmission has previously been described in this publication and its chief characteristic is an internal gear arrangement for shifting from third to fourth and back. This type of gearing is featured by the considerable reduction in transmission noise while driving in geared speeds, while facilitating shifting even at maximum road speeds between third and fourth speeds. The shifting arrangement in the du Pont edition of this transmission is forward to the left for low, back for second, back and to the right for third and forward to the right for fourth.



Shown here are the Durant 65 (left), the Durant 55 (below), and in the lower left corner, the new Star Four. These cars were described in last week's issue

Reverse is engaged by latching out and to the left of the regular shift positions.

On the bodies of this chassis several interesting new features are found. There is a very simple and effective driver's seat adjustment. By lifting the seat cushion a large threaded screw with a wing nut is disclosed by which the entire seat frame including both cushion and back can be adjusted forward and back over a range of 2 in.

There are two individual windshields on the models as well as two cowl ventilators and individual windshield wipers for each windshield. The instrument panel lighting is by an indirect-direct method the panel being recessed at an angle, and the light being concealed behind the aluminum instrument board casting at the top with a reflector to throw the light on the instruments. In the rear quarters of the cars there is a folding floor board at the front which can be raised in two positions to be used for a foot rest if desired. A secondary floor board is below to prevent entrance of mud into the rear quarters.

An individual trunk design and mounting is used. The trunk is designed to fit the body and the trunk is mounted directly on the rear frame horns without the use of a rack. This trunk was used on both the touring and convertible sedan models exhibited.

Marmon

The manner of mounting the radiator on the Marmon 78 differs from conventional practice. The front cross member of the frame carries two supporting brackets projecting forward. These are approximately 2 in. apart. The radiator is bolted directly to these brackets. This manner of mounting is used to protect the radiator from starting resulting from frame weave.

Oakland

Oakland All-American six models are continued practically unchanged mechanically for 1928. The only important change consists in the adoption of the cross-flow type of radiator core similar to that

Statistical Picture of Ten New York Shows

	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928
Total exhibitors	198	307	307	337	356	291	297	277	267	274
Total car exhibitors	...	...	86	87	78	73	61	52	44	43
Total truck exhibitors	...	...	...	...	...	...	...	...	22	19
Total accessory exhibitors	141	225	221	250	278	221	218	214	148	156
Total taxicab exhibitors	...	...	...	...	...	...	...	...	4	1
Total shop equipment exhibitors	...	...	...	...	...	...	...	...	49	55
Total number passenger cars exhibited	225	334	341	310	283	347	262	215	215	217
Total number of stripped chassis exhibited	...	...	35	36	42	39	36	27	23	20
Total number trucks exhibited	...	...	...	...	...	...	...	...	60	73
Total number complete taxicabs exhibited	...	...	...	...	...	11	11	13	11	4

Passenger Car Body Styles

	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928
Open cars	127	176	163	158	127	117	82	41	26	25
2-3 passenger	40	29	14	16	13	23	0	2
2-4 passenger (rumbles)	21	14
4-5 passenger	91	102	92	91	57	18	4	9
6-7 passenger	32	27	21	10	6	0	1	0
Closed cars	79	119	120	149	155	180	180	151	159	172
2-3 passenger	23	37	19	21	13	23	7	9
2-4 passenger (rumbles)	14	19
4-5 passenger	80	80	101	121	144	113	113	125
6-7 passenger	27	32	35	38	23	23	25	19
Convertible	7	20
2-3 passenger	0	0
2-4 passenger (rumbles)	4	15
4-5 passenger	3	5
6-7 passenger	0	0

Passenger Car Engine Characteristics

	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928
Four-cylinder	40	65	80	81	83	66	48	23	20	14
Six-cylinder	141	223	213	204	199	188	192	150	133	131
Eight-cylinder	34	29	31	41	37	43	58	56	60	72
Straight eights	...	...	...	...	...	...	37	43	49	61
V eights	...	...	...	...	...	...	21	13	11	11
Twelve-cylinder	8	7	3	2	1	0	0	0	0	0
Poppet valve	321	319	307	295	291	291	227	206	205	205
Sleeve valve	...	...	12	8	12	12	7	15	9	12
L-head	...	...	180	206	209	204	205	171	147	161
T-head	...	...	29	15	12	8	9	7	5	5
F-head	...	...	...	...	16	6	6	5	5	7
Valve in head	...	...	119	86	83	67	78	44	49	32

Passenger Car Wheels

	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928
Artillery	215	229	235	128	157	169	119	100
Wire	70	67	21	24	22	8	47	95
Disk	56	37	71	145	113	52	49	22

Four Wheel Brakes

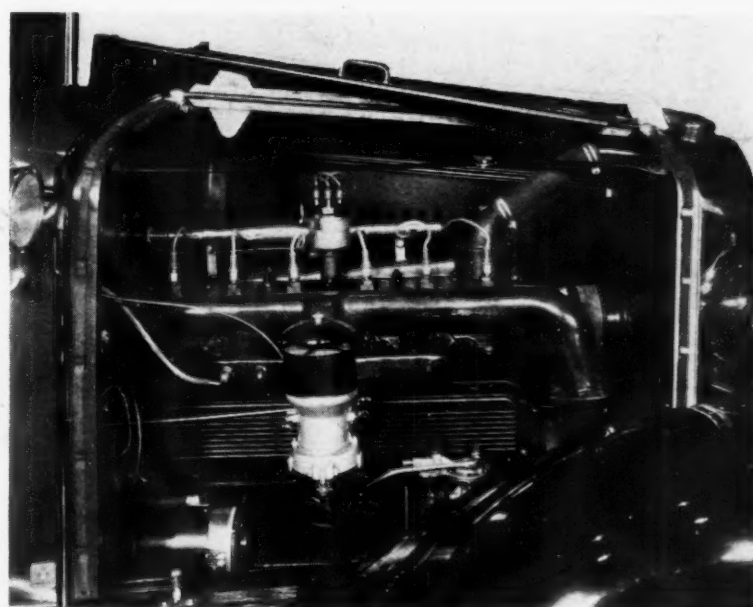
	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928
Standard equipment	44	147	147	175	213
Not fitted	4

announced on the new Pontiac six series in last week's issue. The radiators on the Oakland now also have a false bottom giving the front of the car a higher and narrower appearance. In addition to this change a coincidental lock has also been adopted on the Oakland, mounted on the dash, where the coil is located behind the instrument panel.

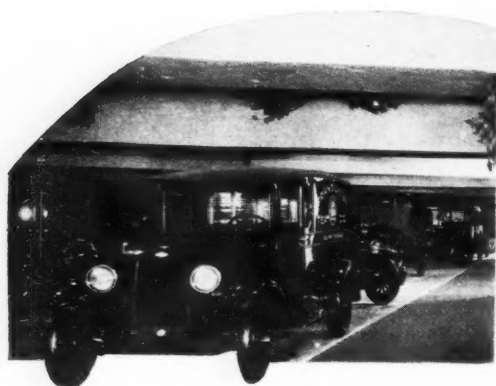
Locomobile

On the Model 8-80 Locomobile chassis a new cabriolet body is shown. This is of seven-passenger capacity—two passengers being carried on folding seats. The trim is of solid walnut with all exterior hardware nickel plated. Wire wheels are used with two spares carried in fender wells.

SINCE Dec. 1, motor trucks of more than 3 tons' capacity must be fitted with splash guards in Paris. The ordinance embodying this new measure was introduced in the city council at the instigation of the League of Pedestrians, which has its own representative in the council. Originally it was to go into effect in August, but it was later changed to December.



Carburetor side of Graham-Paige engine



Some of the exhibits in the Truck Section of the 1928 New York show



All But Two Trucks at Show are *Sixes*

Chevrolet and Pak-Age-Car only makers exhibiting commercial vehicles with engines of less than six cylinders.

By Donald Blanchard

THE truck exhibits at the New York show indicate that during the last year designers have continued to place emphasis on better performance, more attractive appearance and increased driver comfort. Fourteen makers are exhibiting this year and the exhibits include about 70 vehicles. The bulk of the models shown are of low or moderate capacity, due, in part, to the fact that the big, heavy-duty jobs cannot be got into the exhibition hall.

The demand for greater flexibility and speed is reflected by the continued growth in popularity of the

six-cylinder engine in the truck field. All but two of the exhibitors—Chevrolet and Pak-Age-Car—show models with this type of powerplant, while the entire exhibits of Corbitt, G.M.C., Larabee, Reo, Rugby, Selden, Stewart and Studebaker are made up of six-cylinder models.

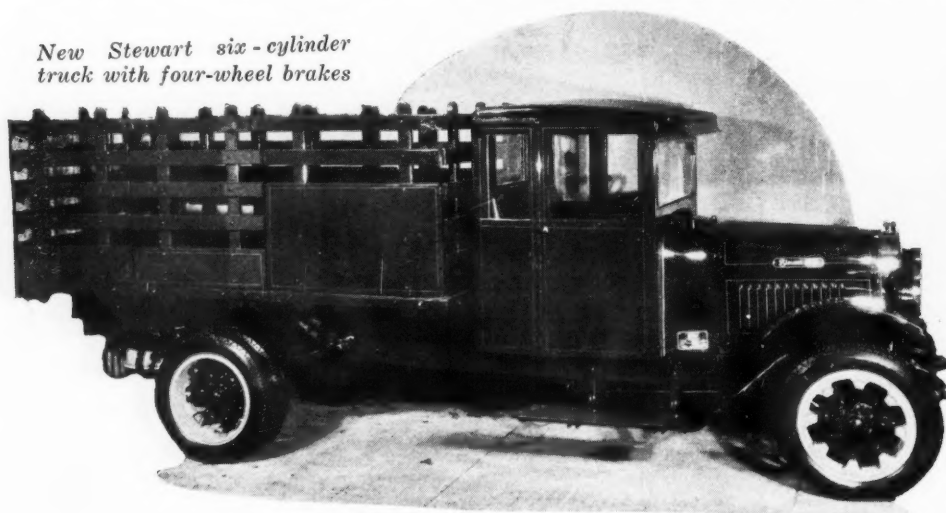
Pneumatic tires are used almost exclusively on the show models, the exceptions being most-

ly heavy-duty jobs, although some of these are fitted with pneumatics, duals usually being fitted on the rear wheels in these cases. With the higher speeds made possible by the more powerful engines and pneumatic tires, the use of four-wheel brakes is becoming increasingly common, at least eight of the exhibitors showing models with this type of brake.

If prices announced at the show may be taken as an indication, exceedingly keen competition during the coming year is in prospect, particularly in the light-duty field. Chevrolet has reduced the price on

its commercial chassis from \$395 to \$375 despite the fact that four-wheel brakes are now regular equipment. The new G.M.C. one-ton chassis with Pontiac engine and four-wheel brakes lists at \$745 and the price on the ½-ton with Pontiac engine is continued at \$585, although this model also is now equipped with four-wheel brakes. Graham is showing an attractive new panel body model on its four-cylinder, 108-in. wheelbase chassis, the complete job listing at \$770. Reo has a new one-ton model with six-cylinder engine and four-wheel

New Stewart six-cylinder truck with four-wheel brakes



brakes at \$995 for the chassis and Stewart is bringing out a 1½-ton job at \$1,295 and it also is a six with four-wheel brakes. Selden's new sedan de luxe delivery model lists at \$1,998.

Durant Motors, Inc., showed two truck models carrying the "Rugby" name, which is the designation under which Star cars have been sold abroad. One of these is the successor to the Star Compound Fleetruck and has a six-cylinder engine and a special four-speed transmission. In addition, it is now equipped with four-wheel brakes. The other Rugby model shown is the new Durant "65" chassis which has a six-cylinder engine and four-wheel brakes. It was shown with a panel delivery body. Prices on these jobs were not available on the opening day of the show.

Attractive Panel Bodies

The efforts being made to secure attractive appearance were most noticeable, of course, on the panel bodies as the utility requirements of other types do not lend them so well to artistry.

Bright colors were common and many of the jobs were shown in attractive combinations. Such passenger car features as belt moldings, sun visors formed by an extension of the roof or of the cadet type, and nicked headlamps are shown by a number of makers.

With the exception of a few stripped chassis, all models shown provide complete protection for the driver either as a part of the body or by means of a cab. In many cases the comfort and arrangement of the driving compartment compares most favorably with passenger car practice. Seats are well-upholstered, crank window regulators are provided, the controls are conveniently placed and in many cases one-piece windshields, hinged at the top, are employed. Incidentally, quite a few of the panel jobs are fitted with a seat for the driver only so that he can get to the interior of the body easily without using the doors at the rear.

The tendency of the truck manufacturers to meet the special requirements of individual operators is quite noticeable not only because of the varied body styles exhibited but also because of the larger number of chassis models which a number of makers are providing as compared with a year ago. The most highly specialized design at the show, of course, is the Pak-Age-Car, which attracted unusual attention because of its many unconventional features.

A brief description of some of the features of the various individual exhibits follows:

American-LaFrance is showing a new 1½-2 ton model, known as the "Chief." This job has a six-cylinder engine, four-speed transmission, four-wheel brakes and pneumatic tires with duals on the rear wheels. The Metropolitan fire engine model also attracted considerable attention in this booth.

Corbitt is exhibiting a six-cylinder, two-ton speed model with four-speed transmission, worm rear axle and pneumatic tires. Electric starting and lighting are regular equipment on this model.

Although not exhibited, G.M.C. is bringing out a new 1½-ton job which will be designated as the T-21. This model has a 3½ by 4½ in. Buick six-cylinder engine, bevel axle, three-speed transmission, two-wheel brakes and is offered in 132, 138 and 150 in. wheelbase lengths priced at \$1,185, \$1,235 and \$1,285 respectively.

Larrabee-Deyo is showing its improved ¾-1 and 2-ton units and also announced the addition of a new, fast, heavy duty model rated at 4-5 tons, designed either for truck or bus use. Among the features of this new model are a six-cylinder, 4½ by 5¼-in. Continental six-cylinder engine, four-speed transmission, double reduction rear axle, pneumatic tires with duals on the rear, and a wheelbase of 218 in.

A new six-cylinder, two-ton model is the feature of the LeBlond-Schacht exhibit. It has a Wisconsin overhead valve, 3¾ by 5-in. engine, four-speed transmission and double reduction axle. Wheelbases furnished include 140, 152, and 180 in.

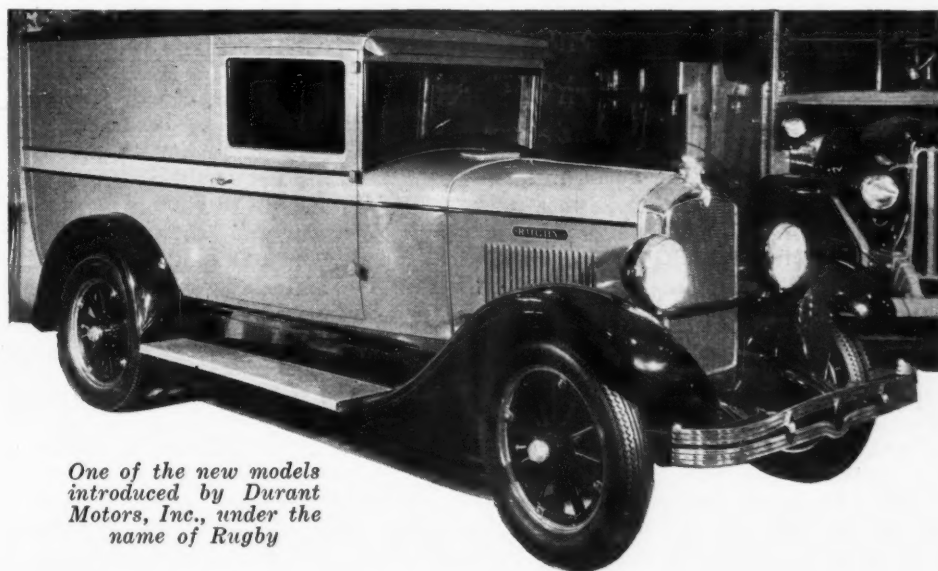
Headlight Congress Held

THE International Illuminating Engineering Commission decided in Geneva in 1924 to devote its next meeting to the subject of automobile illumination, to see whether some international agreement concerning its regulation could not be arrived at. This meeting was held at Bellagio, Italy, on September 2, 1927, under the chairmanship of Dr. Sharp of New York.

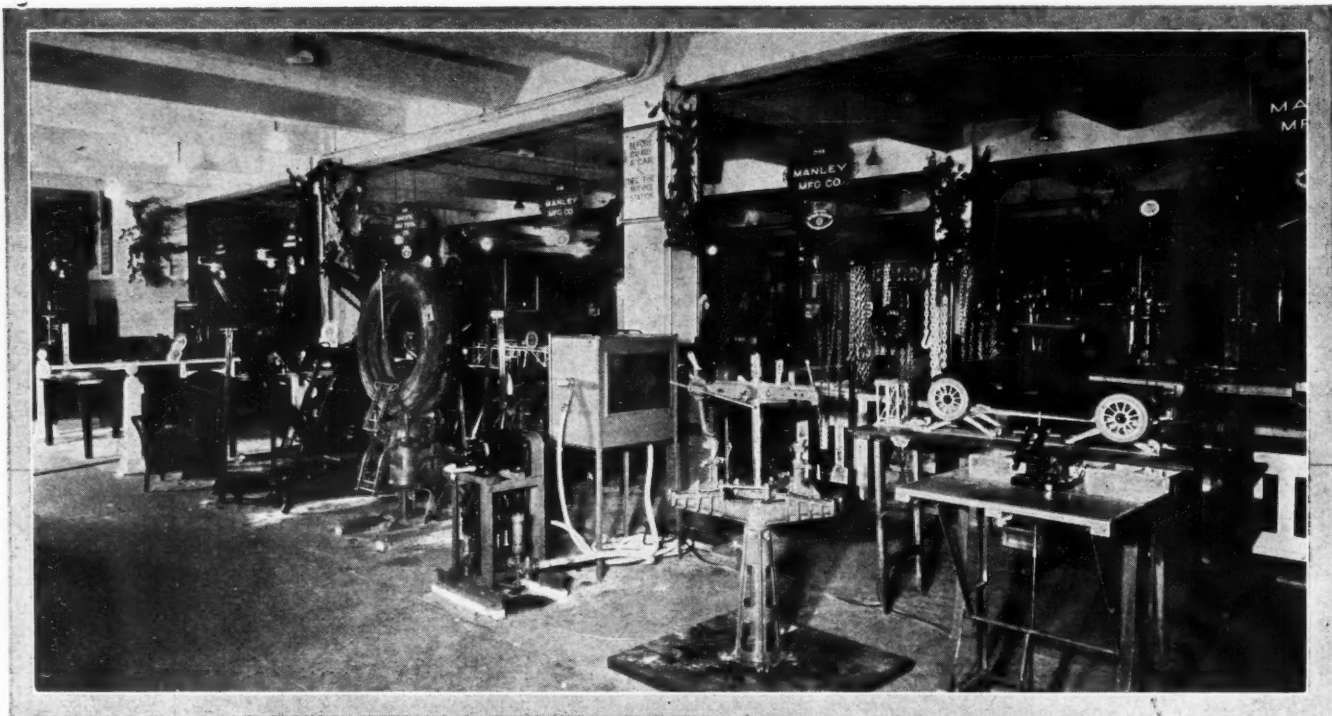
Reports were made by the members of a sub-committee on present methods of headlight regulation in England, France, Germany, Italy, Holland, Japan, Austria, Russia, Switzerland and the United States. Dr.

Sharp pointed out that double-filament bulbs are rapidly coming into use in the United States, whereas up till recently some of the states required the same illumination in city as in country driving.

The reports on present practice in the different countries was followed by a discussion as to the requirements to be made in respect to automobile headlighting. There appeared to be unanimity of opinion that the distribution of the luminous flux should be different in city and country driving and that in city driving it is particularly important to eliminate blinding glare.



One of the new models introduced by Durant Motors, Inc., under the name of Rugby



A general view of the Shop Equipment Section at the New York show

Multi-Purpose Machines Featured in Shop Equipment Displays

Manufacturers exhibit many designs intended to cut operating costs of the small automobile service station.

By W. K. Toboldt

IT is evident that shop equipment manufacturers are concentrating on tools and equipment which facilitate the execution of the most frequently performed operations such as cleaning carbon, grinding and refacing valves and valve seats, car washing and greasing, etc., as they are exhibiting more of this type of equipment than any other at the New York show.

Whenever possible the equipment was displayed in action. Even car washers discharged streams of water into glass tanks so that the public could observe the force of the spray used when cleaning a car.

Following the lead which was started last year, all shop equipment exhibits were grouped together on the fourth floor of the Palace, a little less than one-half of the floor being used for this purpose, while the remainder, together with the third floor, was given over to accessories and replacement parts. Last year the same space was divided in approximately the same proportions.

Another feature which is being continued this year is closing the shop equipment section to the general public for a certain period each day and admitting only the service men, so that they will have every opportunity

of viewing the various pieces of equipment and hearing the advantages of the different types.

Realizing that it would be uneconomical for the smaller shops to purchase separate pieces of equipment for each of the many different types of jobs, many manufacturers are offering multi-purpose machines which will permit the little shops to turn out work which is not only comparable in quality to that produced in large shops, but will also enable them to compete on a price basis as well. By the use of such tools small shops can operate under and derive full benefits from the flat rate system. One of the most interesting of these multi-purpose machines is one in which is combined a valve refacer, a reamer drive and a brake lining drilling, countersinking and riveting machine.

It is interesting to note that many tools which were formerly manually operated now use hydraulic or electric power. For instance, tire spreading machines were operated by means of gears rotated by a manually turned crank. Some of the larger machines on display use electric motor to spread the casings while hydraulic power is used to raise or lower the casing to a working height.

There is a great variety of cylinder reconditioning tools on display, and while there are no new types being offered the old ones have been improved and will turn out better and more accurate work with less fatigue to the operator. There is a marked preponderance of the portable type of cylinder reconditioning tools.

Valve reseaters and facers have also been improved. One valve reseater which was brought out during the year and is displayed in one of the booths uses the eccentric spindle internal grinding machine principle and is a light-weight portable type machine.

Several manufacturers who formerly produced tools and equipment for use on only one or two cars are now offering equipment which has universal application.

More companies are offering engine and rear axle stands to simplify the repair of these units. There is also an increasing number of winches or hoists to assist in the removal, repair and reinstallation of transmission and clutch units.

As an aid to repairing, greasing and general servicing of cars a number of manufacturers are displaying trestles and hoists.

Accessories Becoming More Decorative

Trend is toward greater beauty in such items as bumpers and spare tire locks. B-K Safety Servo Brake is shown.

By Sherman Swift

THE trend in new accessories is decorative as well as utilitarian. As evidence of this one sees at the show license plate frames and holders, which endeavor to hide the ugliness of the license plate and at the same time hold it in place; spare tire and clamp locks which in addition to giving maximum spare tire protection are particularly good looking; improved driving lights which are excellently designed; de luxe closed car side wings which turn with the door, being attached in such manner that one may leave the front windows of the car open without being exposed to annoying back-drafts; the smoking and vanity sets; cowl bands and mirrors; several really new radiator caps and ornaments and any number of beautifully designed and colored bumpers.

Color finishes of these new bumpers apparently run the entire gamut of easily recognized tints and shades and in addition to this there are decidedly new combinations of both color and design that impart a distinctiveness not usually associated with this particular item of equipment.

The Bragg-Kliesrath Corp., Long Island City, N. Y., is showing the new B-K safety servo brake, which operates on the vacuum principle and is especially adapted for use on cars with four-wheel brakes. Both the vacuum cylinder and the piston within it are movable, the cylinder being connected to the linkages to the front brakes. In this way the force of brake application for the front-wheel brakes is definitely limited by the vacuum in the inlet manifold, while the force of application to the rear wheels can be increased considerably beyond this by continued increase in the pedal pressure, which is transmitted to the rear brakes directly. This is a safety measure. A new form of diaphragm valve is used. We expect to print a full illustrated description of this new brake in an early issue.

The Wahl Company is offering an addition to its shock absorber line. This is a new Wahl spring brake, known as the Wahl, Jr., which is designed to be used on the Chevrolet, the two small Chrysler models, Dodge Four, Essex, Oldsmobile, Pontiac, Star and Whippet.

A new idea in windshield wipers or at least the

blade of this necessity, is offered by Trico Products Co., of Buffalo—a five-ply rubber blade which is guaranteed to clean the glass under practically all conditions. Two of these new blades are used on the company's Visionall wiper.

Another somewhat unusual item to make its appearance is known as the ZeroMeter. This attaches readily to the top radiator connection and gives a check on the amount of alcohol present in the cooling system. A feature of this accessory is the way in which it shows the car owner whether alcohol or water should be used in replenishing the radiator.

The United States Chain & Forging Co., Pittsburgh, Pa., announced a new line of round bumpers and fender guards, no special fittings being required to attach them to the car. The bars are made of cold-drawn heavy steel tubing, specially finished for enameling. End caps are likewise made of cold drawn steel, heavily nickel plated. Riser springs are made of specially tempered high carbon steel of extreme resiliency, and present an unusually wide faced bumping area. Bars are available in two finishes, black satin enamel or priming coat ready for color. Trimmings are heavily plated with brilliant nickel. The diaphragm valve is used. We expect to print a full ends of the round bars are gracefully curved to harmonize with car design.

A new line of bumpers and fender guards is also announced by the American Chain Co., Bridgeport, Conn. Designed in a black grooved stripe, both bumpers and fender guards are made in two-bar and three-bar styles and in suitable sizes for light, medium and heavy cars.

It is possible that visitors to the show may make mention of the complete way in which many of the season's new cars are being equipped by the factories. At first glance it might appear that this prodigious amount of equipment would add appreciably to the list price of the various cars; the fact of the matter is that it adds nothing at all to the cost, because it is separately listed and the dealer may sell the car equipped or not, as he sees fit. In other words, the price equipped is given, as is also the price unequipped. It is up to the dealer to sell the equipment and make the extra money.

AUTOMOTIVE **NEWS SECTION** INDUSTRIES

Philadelphia, Pennsylvania

January 14, 1928

1927 Production 3,570,370 N.A.C.C. Tabulations Show

NEW YORK, Jan. 11—Motor car production during December, 1927, is estimated at 135,062 compared with 175,674 a year ago, according to incomplete reports compiled by the National Automobile Chamber of Commerce. On the same basis the output for the year is placed at 3,570,370 as compared with 4,503,877 a year ago.

John N. Willys, chairman of the foreign trade committee of the National Automobile Chamber of Commerce, expressed the belief at the meeting of that committee yesterday that a million motor vehicles per year will be exported by 1930 if present favorable factors continue.

It was generally felt that the economic gains expected in various countries, hitherto unheard of values being given in motor cars, and the increasing tendency abroad for the whole family to drive, will do much toward developing this large export field.

Plans were discussed for expansion of overseas promotional work by the chamber, involving a division of the world market into six groups and assignment of a chamber representative to each. Consideration was given to high tariffs, import restrictions, discriminatory internal taxation and other obstacles to trade extension abroad as well as the efficient and economical methods of shipping and merchandising vehicles in overseas markets.

A resolution commending the visit of President Coolidge to Cuba as contributing to Pan-American unity and concord, thereby mutually benefiting the countries concerned both economically and socially, was adopted.

Ford Reports Sales Now Total 727,000

NEW YORK, Jan. 10—Ford Motor Co. has orders for 727,000 cars, according to Edsel Ford, in a statement at the Ford Industrial exposition now running in Madison Square Garden. Of these 537,000 are secured by a cash deposit of \$25 or more; 100,000 were secured by cash deposits of less than \$25, and 90,000 were being bought on the Ford \$5 a week plan.

Featuring the Ford exhibit is the showing for the first time of the new Fordor sedan. The coupe pillars at the front of the bodies have been eliminated in this model. A smooth flow of lines is obtained by widening out the rear of the cowl to body width and blending it into the body. The cowl stamping is in one piece as against three for the other models. As on the other models, however, the gas tank is located under the cowl.

New molding treatments are in evidence on this model. There are no rear quarter windows but a large plate glass window in the back. Five optional colors are offered.

Senate Holds Back Tax Repeal Action

WASHINGTON, Jan. 11—A prediction that the \$290,000,000 tax relief bill would be side-tracked until after March 15, was made this week by Senator Reed Smoot, chairman of the Senate finance committee. The bill, as passed by the House, provides for complete repeal of the 3 per cent excise tax on passenger automobiles.

The Senate's action in postponing the passage of the measure is regarded as being in the nature of retaliation against the House's action in over-riding the President's and Treasury's tax program, which would have retained the 3 per cent tax on passenger cars. Senator Smoot declared that as chairman of the finance committee, he would not call a meeting of his committee to consider the tax measure "for some time," and declared that when it met, it would take up the alien property bill first.

Administration leaders have declared that after March 15, it would be possible to show by figures, the condition of the Treasury's finances and determine just how far tax reduction should go.

Nash Hits Price Cuts; Pettit General Manager

NEW YORK, Jan. 11—Charles W. Nash, president of Nash Motors Co., addressing the Nash dealer meeting here today, announced that M. H. Pettit, vice-president of the company, had been made general manager. Mr. Nash said he saw nothing on the business horizon to get disturbed about but he made no prediction that 1928 would witness record production.

"We are being told that there is no price war," he said, "and yet, if we should be guided by the extensive newspaper advertising campaign on recent price reductions, we might get the idea that the majority of manufacturers had better go home and go fishing instead of trying to sell automobiles."

World's Oldest Car is Offered for Sale

PARIS, Jan. 3 (by mail)—The oldest automobile in the world is being offered for sale by Abbe Gavois, a village priest of Rainneville, near Amiens. The car, which is the sixth machine built by the Panhard & Levassor Co., has been in existence more than 30 years and was proved, in a public competition, to be the oldest automobile in the world having constantly been in service. With a twin-cylinder engine, tube ignition, tiller steering and wood wheels shod with steel tires, Abbe Gavois uses this car to visit his parishioners and is a familiar figure in the streets of Amiens. Just before the war he refused all offers for the purchase of the automobile, but loaned it temporarily to a museum in London.

Chevrolet Sets Out to Repeat Records

NEW YORK, Jan. 11—Chevrolet Motor Co. will again lead the entire industry in sales in 1928 was the prediction of Vice-President R. H. Grant at the annual New York Show dinner, Wednesday night. He said the company expects to deliver 65 per cent of its year's output by July 4. The dinner at the Commodore followed a sales meeting during the day at Mecca Temple and was attended by 1300 eastern dealers.

The meeting was attended by a majority of the executives of General Motors Corp. Pierre S. duPont, chairman of the board, and H. J. Klingler, sales manager of Chevrolet, delivered short addresses. President W. S. Knudsen of Chevrolet in an interview said January production will total 86,000 and February 100,000 cars.

Stewart Sees Good Year

NEW YORK, Jan. 11—Stewart Motor Truck Co. is looking forward to a year of good business with its improved line of trucks. Under the agreement entered into recently, American-La France & Foamite Corp. is now distributing and providing maintenance for Stewart trucks in Boston, New York, Philadelphia, Paterson, N. J., Newark, N. J., Easton, Pa., Chicago, Baltimore and Pittsburgh. In other cities there is no change.

Graham-Paige Sixes List \$860 to \$2,110

Company Will Have Five
Lines of Cars—Tunney
and Rockne Speak

NEW YORK, Jan. 11—In the setting of a medieval banquet hall the new Graham-Paige line was formally presented to 1000 dealers and 200 guests of the Graham-Paige organization at prices bidding fair to create a condition in the six-cylinder market similar to that now existing in the four-cylinder market. Following luncheon in the ball room of the Roosevelt, Graham brothers made the formal presentation of the new cars and of the Graham-Paige legion embodying the ideals of medieval chivalry in modern business practice.

The new line falls into five price groups of which three prices were announced at the dinner: Model 610 will be priced at \$860 for the two-passenger coupe and \$875 for the five-passenger sedan. Five wire wheels \$35 extra. Front and rear bumpers \$15 extra. Model 619, four-passenger coupe at \$1,575, and five-passenger sedan, \$1,595. Five wire wheels \$60 extra. Front and rear bumpers standard equipment. Model 629 five-passenger sedan \$1,985; seven-passenger sedan \$2,110, and town sedan \$2,085. Six wire wheels \$75 extra. Front and rear bumpers standard. Prices on models 614 and 835 are to be announced later.

Robert C. Graham, vice-president in charge of sales, presided at the dinner. Speakers included his brothers, Joseph B. and Ray A., president and treasurer, respectively, and Gene Tunney, heavy-weight champion, and Knute Rockne, football coach of Notre Dame.

4 Knight Engine Trucks are Introduced by Willys

NEW YORK, Jan. 12—Willys-Overland, Inc., has brought out a line of four trucks, all powered with six-cylinder Willys-Knight engines and equipped with pneumatic tires and internal four-wheel brakes. The capacity ratings are 1, 1½, 2 and 2½ tons. All models have unit power plants, single plate clutches, pump cooling, battery ignition, electric starting and lighting, seven-bearing crankshaft vacuum fuel feed from tank under the seat, tubular propeller shafts, Hotchkiss type drive and metal spoke wheels.

Prices follow: One-ton, \$1,095; 1½-ton, 134 in. wheelbase, \$1,545; 151 in. wheelbase, \$1,595; 2-ton, 150 in. wheelbase, \$1,945; 164 in. wheelbase, \$1,995; 2½-ton, 150 in. wheelbase, \$2,545, and 164 in. wheelbase, \$2,595.

Biflex and Halladay Merge

WAUKEGAN, ILL., Jan. 10—Biflex Products Co., this city, and the L. P. Halladay Co., Decatur, Ill., which have been affiliated for the past three years, were completely merged last week. No

changes in the official personnel will be made, and L. P. Halladay retains an interest in the merged companies, which will operate as the Biflex Products Co. of Waukegan and Decatur. This merger of the two companies is coincident with a new program of expansion involving the addition of several automotive accessories and parts which are being added to the well known line of Biflex bumpers.

M. & A.M.A. Elects McComb President

NEW YORK, Jan. 11—J. M. McComb, vice-president of the Crucible Steel Co. of America, was elected president of the Motor & Accessory Manufacturers Association at the annual meeting today. He succeeds H. L. Horning of the Waukesha Motor Co. Mr. McComb as an officer of the association has been active for some time in the various projects undertaken by the directors and particularly in the movement for better relations between buyers and sellers.

Eugene B. Clark, Clark Equipment Co., succeeded C. H. L. Flintermann as first vice-president; M. A. Moynihan, Gemmer Mfg. Co., succeeded Mr. Clark as second vice-president, and M. B. Ericson, Biflex Products Co., was made vice-president, a position formerly held by Mr. Moynihan. A. H. D. Aitree, American Bosch Magneto Co., moved into Mr. McComb's former position as secretary and assistant treasurer, and L. M. Wainwright, Diamond Chain & Mfg. Co., was reelected treasurer. Directors reelected included Mr. Ericson, H. W. Chapin, Brown-Lipe Chapin Co., C. E. Thompson, Thompson Products, Inc. and L. A. Safford, McQuay Norris Mfg. Co.; W. B. Morris was named a director to succeed S. D. Black.

Reports of the officers showed the association in excellent condition with many new members being added as a result of the amalgamation with the Automotive Manufacturers Association.

More Leaves Indiana

MARION, IND., Jan. 10—A. S. More, for the past year vice-president of the Indiana Truck Corp. in charge of part of the branches, has announced his resignation. His future plans are indefinite and have not yet been announced. R. F. Townsend, assistant to the president, has now taken over the supervision of all the branches of the Indiana Truck, directing their sales activities.

Gardner Plans 100% Gain

NEW YORK, Jan. 11—Pointing to an exceptionally favorable balance between current assets and liabilities, amounting to a ratio of 15 to 1, Russell E. Gardner, Jr., president of the Gardner Motor Co., Inc., told 75 dealers and distributors, assembled at luncheon today at the Hotel Belmont, that as far as his company was concerned there was no basis for merger rumors.

Business in Brief

A special review by the National Conference of Business Paper Editors and the Associated Business Papers.

NEW YORK, Jan. 12—Although money rates were lower this week, apprehension over the new high level of brokers' security loans has produced considerable irregularity in financial markets. Wheat prices have improved in response to larger export demands last week and corn also has advanced slightly. Production of steel ingots in December was ahead of the November total, though substantially beneath the output of December, 1926. Bank clearings in the first week this year were 15.5 per cent larger than in the corresponding period of last year. The increase of clearings outside of New York City was 3.5 per cent and reflects to a certain degree the stimulating effect upon trade of post-holiday "clearance" sales as well as the large volume of interest and dividend disbursements this year.

FREIGHT CAR LOADINGS

Railroad freight car loadings in the week ended Dec. 24 declined, numbering 829,006, as compared with 868,162 in the previous week and 768,040 in the corresponding period a year ago. Total loadings so far reported amount to 51,775,050 cars, as against 53,106,098 cars in the same period a year ago and 51,224,152 cars two years ago.

PETROLEUM OUTPUT

Production of crude petroleum also decreased slightly, average daily output during the week ended Dec. 31 being 2,419,750 bbl. which compares with 2,432,200 bbl. a week earlier and 2,388,400 bbl. in the corresponding period a year ago.

FISHER'S INDEX

Professor Fisher's index of wholesale commodity prices, based upon the 1926 level as 100, eased off to 95.1 last week, as against 95.9 in the preceding week and 96.6 four weeks earlier.

BANK DEBITS

Bank debits to individual accounts, as reported to the Federal Reserve Board for the week ended Jan. 4, were 51.8 per cent above the level of the previous week and 14.1 per cent greater than the amount reported in the like period last year.

FEDERAL RESERVE REPORT

For the same period the Federal Reserve banks reported that reserves rose \$27,000,000, open market purchases \$1,600,000, U. S. Government securities \$24,300,000, and deposits \$63,000,000. Discounts declined \$88,300,000 and note circulation \$52,500,000. Member banks reported that in this same interval loans and discounts increased \$197,662,000, investments \$40,009,000 and demand deposits \$422,519,000. Borrowings from the Federal Reserve banks decreased \$68,819,000.

German is Named New Peerless Head

R. M. Calfee is Elected Chairman of Board and of Executive Committee

CLEVELAND, Jan. 7—Leon R. German was appointed general manager of the Peerless Motor Car Corp. at a directors' meeting today, following the resignation of Edward Ver Linden as president. R. M. Calfee was elected chairman of the board of directors and also chairman of the executive committee, consisting of C. A. Tucker, general sales manager; F. A. Trester, treasurer, and Mr. German.

Beyond a strong and unequivocal denial that Peerless is considering or is interested in any way in any merger with any other company, Mr. German would not discuss the details of the plans which the new management immediately formulated.

"I prefer to let the accomplishments of the new management speak for themselves after they have been brought to fruition rather than to forecast our program in advance. The many friends of Peerless, however, have my assurance that my associates and I will be mindful of our reputations as workers and it will be our aim to justify and strengthen that reputation."

Leon R. German has seen many years of service in the industry. He was formerly vice-president of Olds Motor Works. He has been with Peerless since February, 1925, as vice-president. R. M. Calfee has been Peerless counsel for many years. C. A. Tucker was formerly an Oldsmobile distributor in a large territory, with Omaha as headquarters, and also general sales manager of the Olds Motor Works. He has been connected with the Peerless sales department since September, 1924, joining the organization five months before Edward Ver Linden became its president. He has been general sales manager since February, 1925.

F. A. Trester completed a long service with Cadillac Motor Car Co. as assistant to the president, to become a sales executive and secretary of Peerless in October, 1921. He was recently appointed treasurer of the company.

To Improve Tire Sales

NEW YORK, Jan. 9—The National Better Business Bureau with the support of tire manufacturers and many tire dealers and wholesalers has developed plans for establishing honest retail tire advertising and sales methods within the industry itself. The main abuses which it is aimed to correct occur in the selling of rebuilt, reconditioned and so-called double tread tires; in the sale of factory rejects or seconds, and as result of abuses of mileage guarantees.

5,000,000 Cars Possible Willys Tells Press

NEW YORK, Jan. 9—It is expected that 1928 will set a new high mark for Willys-Overland production, John N. Willys told newspaper men at his annual New York Show luncheon today. This year's gathering marks Mr. Willys' twentieth anniversary as president of the organization which he heads. The 5,000,000 production which has been predicted for the industry as a whole is not an impossible figure, Mr. Willys believes. Sales of the Whippet line since the price reduction, he stated, have exceeded every expectation.

Charles F. Daly Dies; Was Durant Official

NEW YORK, Jan. 7—Charles Frederick Daly, vice-president of Durant Motors, Inc., died suddenly at his home in the Hotel Bretton last night. He had been ill with heart disease for about a month but his condition was improving when a sudden turn for the worse developed. He was 61 years old. He is survived by his widow, Edith Clark Daly, and a daughter, Mrs. Charline Daly Barnett. Funeral services will be held Monday morning at 11 o'clock at the West Park Presbyterian Church.

Prior to his association with William C. Durant in 1920, Mr. Daly held several positions of importance in the railroad industry.

McClaren Sees Increase of 50% in 1928 Business

CHARLOTTE, N. C., Jan. 9—An increase of 50 per cent in the combined business of the Ajax Rubber Co. and McClaren Rubber Co. is anticipated for 1928 by H. L. McClaren, president of both companies. He has left here for Racine to take active charge of Ajax, having been elected president of the company a few weeks ago.

Mr. McClaren indicated that, when he has familiarized himself with the affairs of the Ajax company, he may consider building an Ajax branch plant in Canada to gain the advantage of shipping into England.

Postal Receipts Gain 1.4%

WASHINGTON, Jan. 11—Postal receipts during December where 1.4 per cent larger than those of December, 1926, and are cited by the department as being indicative of the general trend of business. Commenting on the figure, which was given by Postmaster General Harry New at the cabinet meeting this week, Secretary of Commerce Herbert Hoover pointed out that the increase was almost exactly the amount of increase in population.

Sloan Says G.M.C. Offers New Values

Prices Changed Only as Altered Costs Have Required
—Sees Continued Buying

NEW YORK, Jan. 7—Alfred P. Sloan, Jr., president of General Motors Corp., in a statement this week, commented on the new cars announced by the several divisions of the corporation, and now on display at the New York show. Mr. Sloan said:

"All the offerings are in harmony with the policy that General Motors established some years ago and to which it has consistently adhered; a program of constant progress with quality as the dominating keynote or, in other words, giving to the public promptly new ideas in motor car construction and development as advanced methods of manufacture and proved engineering developments make possible, to the end that General Motors products shall represent a continually increasing standard of value.

"There is no question but what new offerings at this time represent values that General Motors has never been able to offer before. Prices in the main have not been materially altered. There have been adjustments on the various models as altered costs have required. The greatest benefit accruing to the public, in my estimation, is the very substantial increased value that has been put back into the cars themselves. I have confidence that the public will show its appreciation of these new motor cars the same as it has endorsed General Motors new offerings in the past."

Jackson Tells Dealers to Build Faith in Car

NEW YORK, Jan. 7—The new Stutz was built for a specific purpose and fills a definite requirement, E. B. Jackson, recently appointed vice-president in charge of sales in the eastern zone for the Stutz Motor Car Co., of America, Inc., told metropolitan dealers and distributors at meeting this week. This definite place is that of class merchandise.

In outlining the sales plans for the year, Mr. Jackson stated that the sales job was to create faith in the car and an active desire for its possession. One point strongly emphasized by Mr. Jackson was that faith in the car can be maintained only through strict adherence to the list price, definite honesty in the sales campaign and high grade demonstration.

Bert Dingley, service manager, outlined many of the new mechanical features incorporated in the 1928 Stutz, and Col. E. S. Gorrell pointed out many of the fine selling points in the new car, especially body features. He outlined, in a brief way, some of the Stutz 1928 racing plans.

Prices Show General Downward Trend

NEW YORK, Jan. 12—Such price revisions as were announced with the opening of the New York show were practically all downward.

The heaviest cuts in any price list were announced by the Peerless Motor Car Corp., these ranging from \$50 to \$750. Jordan Motor Car Co. also made substantial cuts reducing the price \$200 on each of six models, taking \$250 off of the Series R four-passenger Blue Boy, and lowering the four-passenger sport sedan in the Series R line \$300. La Salle also lowered prices \$600 on two custom built models.

In addition to the price revisions on continued models, a number of manufacturers announced prices on recently introduced new lines. These included Hupmobile, Moon, Dodge and Oldsmobile.

The new prices announced are as follows:

HUPP

NEW YORK, Jan. 9—Prices on the Hupp Century line are as follows:

4-pass. coupe	\$1,865
4-pass. sedan	1,875
2-door sedan	1,825
Cabriolet, rumble seat	1,955
Roadster, rumble seat	1,915
5-pass. phaeton	1,905
7-pass. phaeton	1,935

Special custom equipment including 6 disk wheels, \$90 extra; including 6 wire wheels, \$150 extra.

CHRYSLER

NEW YORK, Jan. 10—Lower prices on the Chrysler 52 and 62 lines were announced today. Prices are revised upward on three models in the 72 line while no change is made in the Imperial 80 line. Prices on the 52 and 62 lines follow:

	52	New	Old
2-door sedan		\$670	\$735
Coupe		670	725
Roadster		670	725
Touring		695	750
4-door sedan		720	795
De luxe sedan		790	875
	62		
Business coupe		1,065	1,125
Roadster		1,075	1,175
Touring		1,095	1,095
2-door sedan		1,095	1,145
Coupe (rumble seat)		1,145	1,245
4-door sedan		1,175	1,245
Landau sedan		1,235	1,295

PONTIAC

NEW YORK, Jan. 9—With the exception of two body types the prices of all the new Pontiac Six cars remain the same as their predecessors. The exceptions follow:

	New	Old
5-p. sedan	\$825	\$845
5-p. landau sedan	875	925

LOCOMOBILE

Locomobile Co. of America has advanced the prices on the "8-70" 5-passenger brougham and 5-passenger sedan \$125, making this whole series priced \$2,100.

OLDSMOBILE

NEW YORK, Jan. 9—Prices on the new Oldsmobile six which made its official bow at the show follow:

	New	Old
Two-door sedan	\$ 925	\$ 875
Standard coupe	925	875
Sport phaeton	995	895
Sport roadster	995	895
Sport coupe	995	965
Four-door sedan	1,025	975
Landau	1,085	1,075

Prices include bumpers, hydraulic shock absorbers, etc.

DODGE BROTHERS

NEW YORK, Jan. 7—Prices on four new models in the Victory Six line of Dodge Brothers were announced as follows:

Brougham	\$1,095
Coupe	1,045
Coupe (rumble seat)	1,095
De luxe sedan	1,170
De luxe brougham	1,170

A sport edition of the Senior Six sedan was also shown, the price was not announced.

PEERLESS

NEW YORK, Jan. 7—Prices on the Peerless line follow:

	New	Old
"6-60"		
2-4-p. roadster	\$1,195	\$1,259
5-p. phaeton	1,195	1,295
2-4-p. c'pe rdstr.	1,295	1,345
5-p. sedan	1,295	1,345
"6-80"		
5-p. std. sedan	\$1,395	\$1,595
5-p. spt. sedan	1,395	1,795
"6-90"		
2-4-p. coupe		\$1,895
Victoria		1,895
5-p. sedan		1,895
7-p. sedan		1,995
"8-69"		
126 in. W. B.		
5-p. coupe		\$2,795
5-p. sedan	\$2,345	2,995
133½ in. W. B.		
2-4-p. roadster	\$2,245	\$2,995
7-p. sedan	2,545	3,095
7-p. cus. sed. lim.	2,645	3,295
5-p. sedan	2,345	3,495
7-p. sedan	2,545	3,595
5-p. Ber-Lim.	2,645	3,795

LA SALLE

NEW YORK, Jan. 7—The following reductions in La Salle prices are in addition to those already published:

	New	Old
2-p. coupe	\$3,000	\$3,600
5-p. sedan	3,200	3,800

These are on the 125 in. wheelbase chassis with Fleetwood bodies.

FRANKLIN

NEW YORK, Jan. 9—Additional body models are expected to appear in the Franklin line, some of which will be shown for the first time in Chicago late this month. These will in-

clude a standard coupe and five-passenger sedan on the 128 in. wheelbase. Franklin is also offering several de luxe models which consist largely of present body models equipped with the usual extra equipment in various combinations at extra cost. Franklin is also quoting prices of \$2,000 on the 119 in. wheelbase chassis and \$2,050 on the 128 in. wheelbase.

JORDAN

NEW YORK, Jan. 7—Price cuts ranging from \$200 to \$300 were announced by Jordan Motor Car Co. as applying to its Series R and JE. Only the Series J-1 remains unchanged. New and former prices and reductions are as follows:

Model	New Price	Old Price	Reduction
Series R			
4-p. Blue Boy	\$1,495	\$1,745	\$250
4-p. Spt. Salon	1,295	1,595	300
2-4-p. Tomboy	1,395	1,595	200
5-p. Sedan	1,395	1,595	200
Series JE			
4-p. Col. Coupe	\$1,995	\$2,195	\$200
4-p. Per. Coupe	1,995	2,195	200
5-p. Victoria	1,995	2,195	200
5-p. Sedan	1,995	2,195	200

STEARNS-KNIGHT

NEW YORK, Jan. 7—The F. B. Stearns Co. issued today the prices of the Stearns-Knight H and 8-85 series which were announced several weeks ago. Prices of the F-6-85 are unchanged, giving the company a line of cars ranging in price from \$3,250 to \$5,800. New list prices are:

Model 8-85	Price
Roadster	\$3,950
4-p. touring	3,950
Cab. roadster	4,550
4-p. coupe	4,550
5-p. sedan	4,650
7-p. sedan	4,750
7-p. limousine	5,250
Chassis	3,750
Roadster	5,500
7-p. touring	5,500
Cab. roadster	5,500
2-p. coupe	5,500
5-p. coupe	5,500
5-p. sedan	5,500
7-p. sedan	5,600
7-p. limousine	5,800
Chassis, 137 in.	4,600
Chassis, 145 in.	4,700

FALCON-KNIGHT

NEW YORK, Jan. 9—Falcon-Knight established the price on another of the new models, the coupe at \$1,095. The Willys-Knight Standard 6 coupe was set at \$1,145.

MOON

NEW YORK, Jan. 7—Prices on the "8-80" Moon cars announced at the show are:

5-p. C.C. sedan	\$2,195
5-p. sedan	2,195

Men of the Industry and What They Are Doing

Crawford Leaves Stutz to Join G.M. Export Co.

Charles S. Crawford, chief engineer of Stutz Motor Car Co. of America, Inc., has resigned to accept a position with the engineering division of General Motors Export Co. Mr. Crawford will sail from New York Jan. 19 for a business trip to Europe. Other plans in this connection have not yet been definitely settled.

Mr. Crawford was at one time connected with the Lozier Motor Works of Pittsburgh and later was chief engineer of the Speed Changing Pulley Co., Indianapolis, and served as engineer with the Cole Motor Car Co. and the Premier Motor Co. of Indianapolis.

Zubaty Heads AC Engineers

Joseph Zubaty has been appointed chief engineer of the AC Spark Plug Co., according to an announcement by B. W. deGuichard, president. The new chief engineer, has been in charge of speedometer and other instrument development at the AC for several years. Prior to his association with the AC company, Mr. Zubaty was chief engineer of H. & M. Farman Co. of Paris, for whom he designed and developed the Farman airplane and automobile engines.

Grahams Appoint Cushing

George W. Cushing has been appointed advertising manager of Graham-Paige Motors Corp., succeeding Walter K. Towers, recently resigned. Mr. Cushing is widely known in the Detroit territory, having served as advertising manager of Federal Motor Truck Co. and Hudson Motor Car Co., and later as a partner in the McKinney Marsh and Cushing agency which handled Ford business.

Hupp Names Sales Aides

Hupp Motor Car Corp. has promoted F. D. Peabody and J. E. Roberts to new assistant sales manager positions, which have been created by Rufus S. Cole, general sales manager, to provide for a closer continuous contact between the factory and the distributor organization and factory field sales force.

Litle on Southern Trip

Thomas J. Litle, Jr., chief engineer of Marmon Motor Car Co., with Mrs. Litle, will leave for Miami, after the New York show, and after a short stay there will leave on a cruise of the West Indies.

Pollock Joins Nugent

George L. Pollock, formerly vice-president and treasurer of the Burnside Steel Foundry Co., has become vice-president of the Nugent Steel Castings Co. at Chicago.

Car Accident Fund Urged in New York

NEW YORK, Jan. 10—Creation of a special fund to be administered by the state in a method similar to that used for the workmen's compensation fund, but designed to remunerate persons injured by automobile accidents was urged by Governor Smith in a special message sent to the legislature last night.

This move is in line with agitation which has been carried on for some time to institute compulsory state liability insurance in New York and has been before the legislature on a number of previous occasions.

Norma-Hoffmann Makes Changes

A. H. Grayburn, assistant secretary and assistant treasurer of the Norma-Hoffmann Bearings Corp., Stamford, Conn., has resigned to join the Hope Engineering & Supply Co., Mount Vernon, Ohio, and New York. A. H. Ritter, New York district manager for Norma-Hoffmann, goes to Stamford as assistant secretary, and will be succeeded in New York by F. W. Mesinger from the Stamford office. Norman Bell, assistant sales manager, has also been made assistant secretary. E. C. Lenon at Stamford will be in charge of orders, shipments, credits and collections.

Werner on European Trip

F. J. Werner, president of Shaler Export Corp., is in England where he will spend several weeks. He also will visit the larger continental countries in the interests of the Shaler line. Mr. Werner has handled the Shaler foreign business for the past 15 years.

Godfrey Joins Automatic

Automatic Nut-Thread Corp., Philadelphia, manufacturer of Threadnut automatic nut tapping machines, has appointed E. C. Godfrey as sales manager. Mr. Godfrey was formerly sales representative for the Pratt & Whitney Co. in the Detroit territory.

Hook Sells Hi-Pressure

J. W. Hook has taken over the sales management and advertising of the Hi-Pressure Equipment Co., San Francisco, manufacturer of lubricating equipment.

Scott Heads Van Sales

B. H. Scott has been appointed sales manager of the Van Metal Wheel Division, Erie Malleable Iron Co., Erie, Pa.

Studebaker Dealers Hear Executives Outline Plans

Over 1200 eastern dealers and 19 foreign representatives from 10 European and South American countries were present at the international banquet of the Studebaker Corp. of America at the Plaza Hotel today. Paul G. Hoffman, vice-president of the corporation, characterized the gathering as the greatest dealer meeting in Studebaker's history.

Mr. Hoffman was toastmaster, and the speakers included A. R. Erskine, president of the company, and H. S. Welch, export manager; J. K. Wauters, supervisor of European sales; H. S. Vance, vice-president; D. G. Roos, chief engineer; W. S. James, research engineer; E. J. Murnane, manager of the New York branch, and Ira C. Jones, Newark, N. J., one of the company's premier distributors.

The speakers summarized Studebaker's outstanding achievements during the past two years and its splendid position in the competitive battle that is looming.

Pinckney With Terminals

C. Cotesworth Pinckney, formerly sales and advertising manager of the Boyce & Veeder Co., has been appointed sales and advertising manager of Continental Terminals, Inc., New York.

The company owns and operates the newly completed plants of the Distribution Terminal & Cold Storage Co., Cleveland; Central Railway Terminal & Cold Storage Co., Albany, and the Grand Trunk Railway Terminal & Cold Storage Co. at Detroit. Mr. Pinckney will make his headquarters at New York.

Ross Joins Kellogg

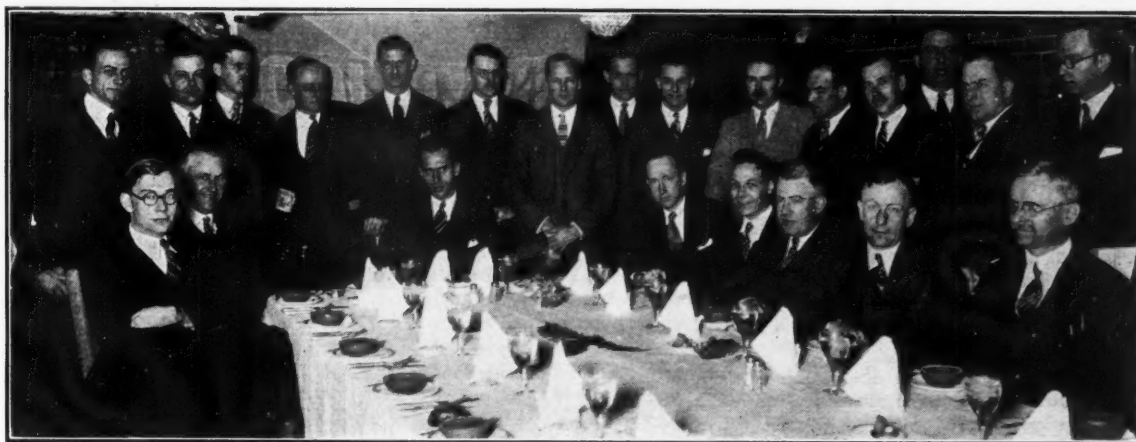
Cleland C. Ross has resigned as plant engineer of the American-La France & Foamite Corp., to become chief engineer of the Kellogg Mfg. Co. George E. Hazzard, formerly chief engineer of Kellogg, is now consulting engineer.

Rumpf Forms New Company

L. C. Rumpf has resigned as a member of the firm of Yen & Rumpf, Inc., and will continue in the importing and exporting business at Tientsin, China, under his own name, handling automobiles, parts and accessories.

Danly Issues Catalogue

CHICAGO, Jan. 9—Danly Machine Specialties, Inc., has issued the fifth edition of its catalogue of die makers' supplies and will mail copies free of charge to company officials and others responsible for the making of dies and manufacture of stampings.



Photograph by Brown Bros.

Chilton Class Journal Staff at the Show

HERE are the writers and artists who covered the 28th annual New York automobile show for the Chilton Class Journal publications. Those in the picture are, seated, left to right: John C. Gourlie, managing editor, *Automotive Industries*; John Cleary, editor, *Motor Age*; Norman G. Shidle, directing editor, *Chilton Class Journal* publications; D. M. McDonald, assistant news editor, *Automotive Industries* and *Motor World Wholesale*; Jay Tuthill, associate editor, *El Automovil Americano*; Leon F. Banigan, editor, *Motor World Wholesale*; H. E. Everett, managing editor, *Automobile Trade Journal*; P. M. Heldt, engineering editor, *Automotive Industries*. Standing, left to right: A. B. Crofoot, New York news representative; L. C. Dibble, Detroit news representative; A. F. Denham, field editor; J. W. Cottrell, technical editor, *Commercial Car Journal*; G. T. Hook, associate editor, *Motor Age*; K. W. Stillman, assistant editor, *Automotive Industries*; W. K. Toboldt, specifications editor; Donald Blanchard, editor, *Commercial Car Journal and Operation & Maintenance*; O. Bauman, art department, *E. G. Grier*, art director; Paul Dumas, technical editor, *Automobile Trade Journal*; R. L. Cusick, assistant editor, *Automotive Industries*; Sherman Swift, assistant editor, *Motor Age*; C. E. Packer, technical editor, *Motor Age*; E. B. Neil, manager, *Automotive Industries* research department.

Engineers Describe Year's Improvements

NEW YORK, Jan. 9—Representatives of the engineering departments of 12 automobile factories described the improvements made in their cars for 1928 at the third annual show meeting of the Metropolitan Section of the Society of Automotive Engineers, held here tonight at the Hotel Commodore. E. F. Lowe, general manager of the K. P. Products Co. and chairman of the section, presided.

The speakers included J. H. Hunt and W. G. Wall, president and president-elect of the society, respectively; Arthur F. P. Phillips, vice-president of Motor Manufacturers & Traders, London, England; H. C. Snow, Auburn; F. T. Wilson, Buick; W. R. Strickland, Cadillac; W. G. Lewellen, Chevrolet; A. H. Knight, Dodge Brothers; E. S. Marks, Franklin; R. W. Hastings, Locomobile; George Freers, Marmon; Louis Thoms, Graham-Paige; J. C. Talcott, Pierce-Arrow; W. E. England, Stearns, and Bert Dingley, Stutz.

Walter C. White Named to N.A.C.C. Directorship

NEW YORK, Jan. 10—At today's meeting of the board of directors of the National Automobile Chamber of Commerce, Walter C. White was elected a member of the board to succeed Windsor T. White. A. R. Erskine, president of the Studebaker Corp. of America, was elected secretary to replace A. J. Brosseau who was recently made vice-president of the truck division.

The meeting concerned itself chiefly with the discussion of J. J. Raskob's

report on the work that has been done with a view to obtaining a widening of the Webb-Pomerene Act to permit of the pooled buying abroad of crude rubber, potash, and other commodities controlled by foreign monopolies. The work that has been done in this direction was endorsed by the board.

S. A. Miles, show manager, reported to the board that the average attendance at the New York show has, to date, run about 8 per cent ahead of last year.

Gas-Electric Taxi Developed by P.R.T.

PHILADELPHIA, Jan. 11—A taxicab with gas-electric drive designed by Mitten Management engineers is being operated in Philadelphia for experimental and testing purposes. The chassis is a Willys-Knight 70-A on which has been mounted General Electric propulsion similar in design to that used on Philadelphia Rapid Transit gas-electric buses and a body of special design.

The standard Willys-Knight engine is coupled to a generator which supplies current to a single motor connected to the rear axle by a single propeller shaft. The rear axle ratio has been altered to 9.85 to 1. Four-wheel brakes are used on this chassis.

Smoother and quicker acceleration and lower maintenance are among the advantages claimed for the gas-electric drive, according to P.R.T. engineers.

The new cab demonstrated on Tam-O-Shanter hill in Fairmount Park, Philadelphia, gained speed on the ascent with five passengers and driver on a grade on which other taxicabs were shifted to second gear.

Fords Are Guests at N.A.C.C. Dinner

NEW YORK, Jan. 11—Added zest was lent to the annual dinner last night of the National Automobile Chamber of Commerce by the presence of Henry and Edsel Ford. The visitors from Dearborn were an unusual sight at the gathering of the leaders of the industry, Henry Ford not having attended since 1912. It was explained that they were present as representatives of the Lincoln Motor Co. and that there was no further significance to the visit except as showing an increased tendency toward friendly cooperation of all elements of the industry.

With an attendance of about 1300 the dinner was the largest in history. Presiding as toastmaster, Roy D. Chapin spoke of a spirit of unexampled optimism on the part of the motor leaders in looking into 1928. This, he said, was based on the tremendous values offered in motor cars to a public fully in sympathy with the policies of the manufacturers. Henry G. Weaver, sales section of General Motors Corp., provided amusement for the guests by a talk largely concerned with sales methods.

Farmers Interested in Roads

"Senator" Edward Ford entertained with quips at the expense of some of the automobile manufacturers, including of course the Ford Motor Co. W. M. Jardine, secretary of agriculture, spoke on the growing efficiency of the farmer whom he described as equally interested with the automobile manufacturer and dealer in the development of an adequate and economical highway system.

Leaders Predict More Business in 1928

(Continued from page 44)

the record figures of 1926. Causes which retarded car sales in 1927 have been removed and manufacturers have adjusted themselves to conditions as they are likely to obtain for some time to come. It is unlikely that the industry will go through a period of uncertainty similar to the past year for years to come. Material changes have been going on in the industry during the past 12 months which have slowed down production to a point where it looks as if demand had more than caught up with supply.

Prices established by manufacturers for 1928 should remain at about an even level for the year. In general, prices are apparently as low as present standards of quality and present capacity output conditions will warrant. If price drops are to affect quality standards they will be inadvisable in the motor car market of today.

Highly competitive sales conditions may force small profit margins which, however, should be offset by a greater volume of sales. The reestablishment of stable conditions in the light car market will have a steadying influence on the business as a whole. Production plans of Willys-Overland for 1928 contemplate material increase over the output of the past year.

Paul G. Hoffman, vice-president in charge of sales, Studebaker Corp. of America: We look for a very material increase in production by Studebaker this year as compared with 1927, although it is a bit too early to try to make specific estimates. The American edition of the Erskine, will result in at least doubling the sales of this line.

The automobile industry, entered a new period several years ago in which basic engineering development and scientific research became essential as a part of the activity of every individual manufacturer. With constant change apparently the permanent program of the industry, those companies are likely to survive and be successful which can make these constant changes on an intelligent, planned basis resting on a foundation of sound research engineering departments.

A. J. Chanter, recently appointed manager of branches of Studebaker, also sees 1928 as a good year for the industry in general and for Studebaker in particular. New car stocks in the hands of Studebaker dealers are lower, Mr. Chanter says, than they ever have been before, while the used car situation is not bad. Conditions as to number of dealers in a given area and size of territories, Mr. Chanter emphasized, must be made such as to permit the retailers to make a good profit under normal conditions. It is toward this end that Studebaker 1928 factory sales program is being directed.

Studebaker officials believe that prices will remain stable in that field in which the Studebaker lines are competitive.

William T. Young, Jr., assistant sales director, Marmon Motor Car Co.: We are entering what promises to be by far the most successful year in our organization's history. We are now turning out 200 of the Model 68 Marmons per day and 100 of the Model 78s and this will be stepped up as the selling season gets into full swing. We closed 1927 with a 230 per cent increase in units manufactured over the previous year, and are all set to make a new and better record this year. Our present plans call for a production of between 40,000 and 45,000 units during 1928 and recent expansion of sales plans will aid materially in selling this greater output.

Zone offices have been established in New York, Chicago, San Francisco, Kansas City, Atlanta and Indianapolis and we look for splendid results from the cooperation of these zone executives with our expanded dealer organizations in the various sections of the country.

Our dealers are in excellent shape. For the past 60 days the revision of our lines has given them an excellent opportunity to clean up their stocks of both new and used cars and prepare themselves to go into the 1928 selling season with decks cleared for record sales at a real profit.

Marmon has always been well established in the metropolitan districts, and the changes in our line now make it possible for us to reach out into the rural sections in a way we have never been able to do before. And this, of course, will help sales volume materially. Our line is so priced that we have no apprehension as to what may happen in the industry as to changes in prices in other lines.

F. E. Moskovics, president, Stutz Motor Car Co. of America, Inc.: I think 1928 will be an unusually good presidential year. We are planning a production of 6500 units and our dealers are in excellent shape to jump right into the merchandising of that output. We gave our dealers four months' notice that we were bringing out the new car, and as a result they have cleaned up stocks of new and used cars and are ready to go.

I do not see where the present tendency toward price cuts is going to effect Stutz to any great extent, for ours is essentially a specialty proposition and appeals as such to the public. Our 1928 policy that no two Stutz cars shall be turned out exactly alike has met with splendid reaction from a class of buyers who insist on individuality.

We are particularly enthusiastic over the outlook for our export business in 1928. I have made it my busi-

ness to know what foreign buyers want, by extensive traveling abroad in 1927 and previous years, and we are meeting their desire in the new Stutz. We look forward to our greatest export year. We feel that we have strengthened our organization materially by adding E. B. Jackson to our executive staff as vice-president, and taken as a whole, 1928 should be a good year for Stutz.

R. H. Grant, vice-president in charge of sales, Chevrolet Motor Co.: We look forward to the best year we ever had. We are planning for a production of well over a million cars and trucks during 1928 as compared with approximately a million even in 1927, our best year up to this time.

There is every reason to expect that the industry as a whole will produce more units this year than last. The country is in a prosperous condition and the situation in my opinion will remain good. Used cars will probably present a more serious problem this year than last, which is only what we can expect as a natural consequence of a higher production of new cars. The used-car situation in 1927 was helped to some extent by Ford's inactivity. Prices will not change greatly from established levels in the near future. We do not expect to make any further changes in Chevrolet prices. Following recent plant extensions, Chevrolet this year is in a position to produce 1000 more cars a day than in 1927.

J. S. Bigsby, assistant general sales manager, Gardner Motor Co., Inc.: We are looking forward to our best year and are of the opinion that we will benefit from the "jockeying" for position that has been taking place in regard to prices in the lower price field. We have been able to place on the market an eight-cylinder car selling for the former price of a medium-sized six and the response from the public thus far has been very gratifying. We are quite confident that we will produce and sell more cars in 1928 than we did in 1927. We do not contemplate further price changes. Aside from the domestic situation, we expect to increase our export sales this year. Last year we were able to increase this branch of our business 30 per cent over the 1926 figure.

John A. Nichols, Jr., president of Falcon Motors Corp., said: "I look for very heavy production in 1928 and our company is planning to turn out about 30,000 cars or double the 1927 figure. There is less incentive than ever for further price cuts, as quality is now first in the buyers' mind. Trouble with used cars will be experienced unless manufacturers back up dealers in a policy of considering used cars as products for purchase and sale like other merchandise, and not as trade-ins.

U. S. Chamber Dates Wholesaler Meeting

Conference Will Discuss New Conditions Affecting Whole- saling in All Lines

WASHINGTON, Jan. 12—A call for a national wholesalers' conference, to be held here, Feb. 14 and 15, to determine what part wholesaling plays in the changing of economy of distribution, was issued today by the department of domestic distribution of the Chamber of Commerce of the United States.

The meeting will bring together outstanding business men in the wholesale field, representatives of all the more important trades and economists to discuss problems affecting wholesaling and to map out a general program for improvement.

W. M. G. Howse, president of the Johnston & Larimer Dry Goods Co., Wichita, Kan., and president of the National Wholesale Dry Goods Association, chairman of the committee on domestic distribution of the national chamber, will act as chairman.

"Some of the various questions which may be considered," explained Alvin E. Dodd, manager of the department of domestic distribution of the national chamber, who will have charge of the conference, "are:

"What are the essential wholesale functions?

"How are they being performed today?

"What is the status and effect of group buying, private brands, and other developments, in different lines of business?

"How can the plane of wholesaling be elevated and stabilized, and its effectiveness and service increased?

"What are the possibilities of analyzing wholesale markets, costs, the relation of 'volume' to profit and to economic areas and distances?

"The purpose of a conference of wholesalers will be to arrive at such facts as the costs of wholesaling as a means for determining profitable trading areas; economic minimum of profitable orders; distribution costs of different lines; methods of promoting the adoption of uniform classification of accounts within each wholesale trade in order to increase efficiency and facilitate cost comparisons."

White and Kiken Head New N.S.P.A. Committees

DETROIT, Jan. 10—The personnel of the finance and show committees of the National Standard Parts Association, for 1928, have been announced by E. P. Chalfant, executive vice-president. The show committee is composed of Ray A. Kiken, chairman, Motive Parts Co. of America, Inc., Chicago; A. O. Dunk, Puritan Auto Parts Co., Detroit; Ira Saks, Accurate Parts Mfg. Co., Cleveland; C. C. Secrist, Victor Mfg. & Gas-

Meetings and Events Scheduled for Week of Chicago Automobile Show

FRIDAY, JAN. 27
Chicago Automobile Trade Association, Pre-Show Dinner and Meeting, Congress Hotel 6.30 p. m.
Stutz Motor Car Co. of America, Inc., Salesmen's and Dealers' Meeting, Branch Office 8.00 p. m.

SATURDAY, JAN. 28
Hupp Motor Car Corp., Luncheon and Meeting every day, Stevens Hotel.
Studebaker Corp. of America, Luncheon, Hotel Stevens Noon

MONDAY, JAN. 30
National Automobile Dealers Ass'n, Directors' Meeting, Palmer House 10.00 a. m.
Packard Motor Car Co., Meeting and Luncheon, Packard Distributors and Dealers, Blackstone Hotel 9.00 a. m. to 5.00 p. m.

TUESDAY, JAN. 31
Automotive Electric Association, Annual Electrical Service Meeting, Congress Hotel 10.00 a. m.
National Association of Automobile Show and Association Managers, Luncheon and Annual Meeting, Drake Hotel 1.00 p. m.
National Automobile Dealers Association, Business Session, Palmer House 2.00 p. m.
Oakland Motor Car Co., Meeting, Palmer House... 1.00 p. m.
Banquet, Palmer House... 6.30 p. m.
Packard Motor Car Co., Meeting and Luncheon,

Packard Distributors and Dealers, Blackstone Hotel 9.00 a. m. to 5.00 p. m.

WEDNESDAY, FEB. 1
Auburn Automobile Co., Luncheon, Blackstone Hotel 1.30 p. m.
Automotive Electric Association, Annual Electrical Service Meeting, Congress Hotel 10.00 a. m.
H. H. Franklin Mfg. Co., President's Luncheon, Drake Hotel 1.00 p. m.
Gardner Motor Co., Luncheon and Dealer Meeting, Blackstone.
Nash Motors Co., Dealers' Meeting and Luncheon, Congress Hotel Noon
National Automobile Dealers Ass'n, Members' Meeting, Palmer House 10.00 a. m.
Members' Meeting, Palmer House 2.00 p. m.
Dinner, Palmer House ... 6.30 p. m.
Olds Motor Works, Show Dinner, Congress Hotel... 7.00 p. m.
Peerless Motor Car Corp., Luncheon, Congress Hotel..... Noon
Vellie Motors Corp., Luncheon and Meeting, Congress Hotel 1.00 p. m.
Willys-Overland, Inc., Dealer Meeting and Banquet, Palmer House.

THURSDAY, FEB. 2
Paige-Detroit Motor Car Co., Luncheon, Blackstone Hotel Noon

FRIDAY, FEB. 3
Chevrolet Motor Co., Business Meeting, Erlanger Theater 1.30 p. m.
Banquet, Palmer House... 6.30 p. m.

ket Co., Chicago; J. F. Strand, Lake Erie Metal Products Co., Bedford, Ohio, and Robert Macfee, secretary, National Standard Parts Association.

The finance committee is composed of L. T. White, chairman, Motor Bearings & Parts Co., Raleigh, N. C.; A. O. Dunk, Puritan Auto Parts Co., Detroit, and D. W. Rodger, Federal-Mogul Corp., Detroit.

American Car Outlook Favorable in Belgium

WASHINGTON, Jan. 11—A favorable outlook for the sale of American built cars in Belgium is reported to the automotive division of the Department of Commerce by its representative in Brussels. American manufacturers ranked second among exhibitors at the show just closed in Brussels.

The general sentiment of American dealers in Belgium, the department is advised, is that this year will be one of good sales and that the position of the American cars on the Belgium market will be as strong as that of European cars, particularly as the new six-cylinder French manufacturers are not sufficiently low priced to interfere with the sales of American makes to any serious extent.

Oakland Motor Car Names Six Regional Managers

PONTIAC, Jan. 9—Oakland Motor Car Co. has appointed six new regional managers, who, with headquarter cities, are as follows: F. R. French, New York; L. M. Dreves, San Francisco; Harry Mahaffey, Chicago; L. J. Marsh, Cleveland; W. A. Sullivan, Atlanta, and Edson Smith, Kansas City. The latter four have been promoted from positions of district manager in their respective cities. The company's dealer organization now totals 4300 and many more are being added.

New assignments of district managers as result of the promotions are as follows: R. D. Batchelder, Chicago; E. J. Barlow, Cleveland; T. A. Kimmel, Atlanta; E. J. Beguhn, Kansas City; E. J. Mann, Indianapolis, and C. L. Pugh, Butte, Mont. Each of the 22 district managers will now have a staff made up of a supervisor of dealer accounting, supervisor of distribution, supervisor of service, parts and accessories and a supervisor of sales development, advertising and fleet sales.

The six regional managers will visit the factory every 30 days and will pass on instructions.

Lower Car Prices Upset Steel Plans

Resistance to Higher Metal Levels Seen Because of Close Profit Margins

NEW YORK, Jan. 12—For perhaps the first time in the steel market's history, full recognition is being accorded to the importance of motor car sales prices as a factor of influence on the course of steel values. The low figures recently announced for popular makes of cars have caused considerable uneasiness among rollers of sheets and strip-steel. It had been generally expected that toward the end of the first quarter, with sheets contracted for at the relatively low prices of December used up, automotive consumers, having by that time gained a much better operating stride, would accept the new prices as a matter of course.

In computing sales prices for their 1928 models, motor car manufacturers, however, figured obviously so close that any advance in raw material costs over those which obtained at the time the model was brought out, must necessarily prove a problem and, in consequence, resistance is apprehended when commitments for sheets at higher prices are in order. Cold-finishers of steel bars look to improved conditions in the market for their hot-rolled material to help them weather the breakers that are ahead.

For the present automotive consumers continue to enjoy a dominant position in the sheet market. Steel demand from builders and railroads is likely to be of slow growth and, judging from present indications, basic conditions in the steel market will not undergo any appreciable change in the immediate future. But there have been times when, contrary to all expectations, conditions did change over night and automotive cost experts are certainly skating on thin ice when they ignore this contingency in their computations.

Pig Iron—Middle West automotive foundries have covered their first quarter requirements, and in some cases commitments are sufficiently large to provide a nest-egg for second quarter. Stocks of merchant iron are abundant and the market is easy.

Aluminum—Automotive consumption continues to broaden but buyers confine their purchases to nearby requirements. The domestic producer has lowered prices for sheets and coils to the extent of 1/2 cent per pound. Remelted 98 @ 99 per cent metal is being held at 22 cents, delivered.

Copper—Consumers are covering their first quarter requirements, the market in the last few days having given evidence of a more steady trend.

Tin—For several days consumers had things their own way in the market and quite a little tin was picked up at what appear to be bargain prices.

Lead—Storage battery manufacturers are buying somewhat more freely. The market, on the whole, runs quiet and steady.

Zinc—Consumers are buying in a routine way. The market is holding its own.

Air Mail to Join U. S. and Mexico

WASHINGTON, Jan. 11—As a result of Lindbergh's good-will flight to Mexico, which demonstrated the feasibility and practicability of an air route connecting the two countries, Postmaster General New this week announced that he would open bids for a two-day mail service between the two countries. Interested companies are invited to get in communication with the department.

N.A.D.A. to Discuss Car Junking Plans

CHICAGO, Jan. 9—Used car developments of 1928, especially in connection with cooperative dealer junking, will be given special stress at the eleventh annual convention of the National Automobile Dealers Association to be held in Chicago Jan. 30 to Feb. 1 at the Palmer House. C. A. Vane, general manager, has announced. The experiences of the successful dealer junk yards will be presented by the operators.

In addition to the used-car discussion, business of the convention will include the election of a president, two vice-presidents, treasurer and directors for districts 5, 7, 12, 14, 20, 25 for the three years and from district No. 17 for two years. The annual banquet will be held the evening of February 1.

Average Rubber Prices Drop 23 Cents in 1927

WASHINGTON, Jan. 11—The automobile industry, users of 85 per cent of the imported crude rubber during the first three quarters of 1927, paid an average import price of 37 cents a pound, a decline of 23 cents below the average price a year ago, according to import figures of the U. S. Bureau of Foreign and Domestic Commerce.

During the January-September period, a total of 731,911,000 lb., valued at \$268,000,102 was imported. This was a gain over the same period the previous year of 6.4 per cent in volume, but a decrease of 35 per cent in value. The quantity imported during the first three quarters of 1927, was greater than for any entire year prior to 1924.

Rubber Use 575,000 Tons

NEW YORK, Jan. 9—World shipments of rubber during 1927 were about 605,000 tons, with consumption around 575,000, according to Henderson, Helm & Co. Consumption in the United States was around 375,000 tons.

Arrivals at New York during the first week of the current year are estimated at 7800 tons.

Litchfield Heads Rubber Association

Seiberling Named First Vice-President—Hough Named to Board of Directors

NEW YORK, Jan. 9—P. W. Litchfield of Goodyear Tire & Rubber Co. was elected president of the Rubber Association of America to succeed J. C. Weston of Ajax Rubber Co. at the annual meeting today at the Hotel Commodore.

F. A. Seiberling, Seiberling Rubber Co., was elected first vice-president, and E. H. Broadwell of Fisk Rubber Co. was elected second vice-president. A. L. Viles continues as general manager and secretary, and Samuel Woolner, Jr., Kelly-Springfield Tire Co., and E. M. Bogardus, Fisk Rubber Co., continue as treasurer and assistant treasurer, respectively.

H. Hough, president of B. F. Goodrich Co. was elected to the board of directors to fill the unexpired term of W. O. Rutherford, who was retired from active participation in business.

The following were elected directors to fill vacancies caused by the ending of the regular three-year period, brought to a close at this meeting: E. H. Broadwell, Fisk Rubber Co., succeeding himself; P. W. Litchfield, Goodyear Tire & Rubber Co., succeeding himself; H. L. McClaren, Ajax Rubber Co., succeeding C. C. Gates of Gates Rubber Co.; F. A. Seiberling, Seiberling Rubber Co., succeeding himself; and J. C. Weston, Ajax Rubber Co., succeeding himself.

In his president's report, J. C. Weston, retiring president of the Association, laid special emphasis on the need for cooperation to eliminate vicious competition which has sprung up in the industry during the past year or two. He also urged the proper use of the facilities of the association to obtain ends meeting the good of the industry.

In reviewing the accomplishments of the past year, he called attention to the formation of a crude rubber division; to the work which has been done toward obtaining simplified forms and standards in specifications; to the cooperation which has been obtained from and given to the Department of Commerce; to the association's participation in the work of the Motor Vehicle Conference Committee and the successful campaign carried on in New York City to prevent the elimination of rubber floor coverings in buildings.

Grants European Rights

NEW YORK, Jan. 7—Pratt & Whitney Aircraft Co., Hartford, Conn., has granted exclusive manufacturing and sales rights on its aviation engines for Continental Europe to the Bavarian Motor Works of Munich. The German company has heretofore concentrated on water cooled engines, on which it attained wide recognition during the war.

Automotive Industries' Census of Motor Vehicle Registrations for Jan. 1, 1928

	Total Motor Vehicles	Passen- ger Cars	Trucks and Buses		Total Motor Vehicles	Passen- ger Cars	Trucks and Buses		Total Motor Vehicles	Passen- ger Cars	Trucks and Buses
Ala.	243,539	211,633	31,906	Me.	162,250	134,035	28,215	Okla.	644,450	588,000	56,450
Ariz.	74,527	64,118	10,409	Md.	327,633	315,940	11,693	Ore.	245,768	223,875	21,893
Ark.	206,568	174,524	32,044	Mass.	696,107	612,855	83,252	Pa.	1,568,617	1,345,526	223,091
Cal.	1,694,275	1,480,316	213,959	Mich.	1,156,344	999,915	156,429	R. I.	118,765	99,148	19,617
Colo.	268,026	245,738	22,288	Minn.	640,107	558,442	81,665	S. C.	199,873	179,503	20,370
Conn.	283,000	239,000	44,000	Miss.	246,900	224,900	22,000	S. D.	169,546	153,013	16,533
Del.	46,693	38,023	8,670	Mo.	675,000	600,000	75,000	Tenn.	295,440	269,984	25,456
D. C.	126,136	111,145	14,991	Mont.	112,756	94,752	18,004	Tex.	1,110,986	993,288	117,698
Fla.	363,927	309,667	54,260	Neb.	372,200	340,930	31,270	Utah	78,976	67,731	11,245
Ga.	296,567	258,461	38,106	Nev.	25,776	20,414	5,362	Vt.	79,510	73,190	6,320
Idaho	103,000	92,500	10,500	N. H.	96,000	84,000	12,000	Va.	335,275	286,334	48,941
Ill.	1,438,985	1,254,421	184,564	N. J.	712,384	576,120	136,264	Wash.	389,409	330,877	58,532
Ind.	813,496	696,457	117,039	N. M.	60,000	56,000	4,000	W. Va.	244,803	213,087	31,716
Iowa	706,829	642,632	64,197	N. Y.	1,900,866	1,579,051	321,815	Wis.	698,944	609,950	88,994
Kan.	501,901	447,273	54,628	N. C.	430,499	390,223	40,276	Wyo.	52,220	45,800	6,420
Ky.	285,099	255,370	29,729	N. D.	160,696	144,827	15,869				
La.	255,000	216,000	39,000	Ohio	1,587,000	1,385,000	202,000	Totals....	23,302,668	20,333,988	2,968,680

Rim Output Shows 4,000,000 Reduction

CLEVELAND, Jan. 11—Rims inspected and approved by the Tire & Rim Association of America, Inc., for 1927 numbered more than 4,000,000 less than for 1926, a report of the association shows. The total for 1927 was 20,012,055 and for 1926 it was 24,199,613. Nineteen-inch balloons represented 43.9 per cent of the total in 1927 as compared to 58.5 per cent in 1926. Comparative December figures in the major classes for 1926 and 1927 are:

Size	Clincher	1927	1926
30 x 3½	19" Balloon	36,509	53,505
26 x 3½		36,628	17,131
27 x 4		129,765	435
28 x 4½		48,377	651
27 x 3½	20" Balloon	23,234	3,980
28 x 4		180,016	121,374
29 x 4½		22,315	9,018
30 x 5		54,840	2,951
28 x 3½	21" Balloon	63,904	445,076
29 x 4		20,144	88,663
30 x 4½		27,609	86,364
32 x 4½	High Pressure	5,272	25,305
30 x 5	20" Truck	125,202	107,564
32 x 6		20,715	10,606

Limited Bus Control to be Backed by A.A.A.

NEW YORK, Jan. 11—A considerable change in the viewpoint of the legislative committee of the bus division of the American Automobile Association on Federal regulation of interstate bus operation, was indicated at a meeting held here today. Heretofore the committee has backed the Denison Bill, H. R. 19, but it appears likely now that either it will be revised materially or a new bill will be drafted and receive the bus division's support. Opinion at the meeting was in favor of a short bill that would give the bus

operators the protection they desire and yet would not subject them to intimate and burdensome control. The consensus was that the bill should provide for the granting of certificates of public convenience and necessity protecting interstate operators from competition not in the public interest and that "public convenience and necessity" should be determined on the basis of public demand. It also was urged that the regulation of rates and other features of bus operation be deferred until a later date.

Financial Notes

Nash Motors Co. reports net profit for the year ended Nov. 30 as \$22,670,744 after all expenses, reserves, depreciation and state and federal taxes. This compares with \$23,346,306 for 1926. A regular quarterly dividend of \$1 and an extra dividend of 50 cents have been declared, both payable Feb. 1 to stockholders of record Jan. 20.

Continental Motors Corp. reports gross profits for the year ended Oct. 31 of \$3,499,701 on the sale of motors and parts, and net income of \$1,444,330 before federal taxes. This compares with \$2,026,327 income after reserve for taxes in the previous year.

Lee Tire & Rubber Co. reports net income for the 10 months ended Oct. 31 as \$784,257 after interest and expenses, and a profit and loss surplus of \$1,317,084 as against \$587,593 at the close of 1926.

Packard Motor Car Co. and subsidiaries report assets as of Nov. 30 as \$61,518,952 compared with \$61,044,062 on Aug. 31. Surplus was reported as \$23,819,586 as against \$20,986,439.

Arthur Lumsden Retires

PARIS, Jan. 2 (by mail)—After 31 years' connection with American automotive interests in Europe, Arthur Lumsden, president of the Societe Anonyme B. F. Goodrich, of Colombes, France, resigned his position at the end of the year and, it is understood, will not seek other business activities.

Oakland to Double Engineering Activity

NEW YORK, Jan. 10—The Oakland Motor Car Co. is organizing an experimental production department to fit into the activities of the engineering department, President A. R. Glancy told Oakland-Pontiac dealers at the annual show meeting at Hotel Roosevelt this week. Mr. Glancy also said the company would double the size of its engineering department.

Alfred P. Sloan, Jr., president of General Motors Corp., spoke at the dinner meeting and reiterated his views that 1928 would be a good business year. He recited a number of factors which, he believed, will result in an increased purchasing power.

General Motors, he said, has no desire to enter a lower priced field than it is now in. Chevrolet represents its lowest priced field and Cadillac the highest in keeping with the corporation's policies. It would be perfectly possible, he said, for the corporation to make a car a little smaller and to eliminate some of the quality features found in Chevrolet and sell it for less, but the corporation does not desire to do this.

Urges Accounting Help

Mr. Sloan urged dealers to take advantage of the accounting facilities which General Motors provides. The facilities are designed, he said, to assist dealers to improve their businesses. Pierre S. duPont, chairman of the board, and Fred J. Fisher, vice-president of General Motors, also gave short talks.

The meeting was in charge of W. R. Tracy, vice-president in charge of sales. An interesting feature was an enormous scroll which was gradually unrolled to illustrate points in talks given by various members of the sales organization. In outlining Oakland-Pontiac's advertising program, W. E. Fellows, advertising manager, told the dealers the company plans to spend \$7,600,000, compared with \$5,300,000 last year. Of this amount 82 per cent will be for local advertising.

Marmon to Produce 45,000 Cars in 1928

INDIANAPOLIS, Jan. 7—Production of 45,000 units, representing a retail volume of \$74,850,000, is the program of the Marmon Motor Car Co. straight-eight division for 1928, according to H. H. Brooks, general sales director, speaking before 1500 Marmon dealers, distributors and representatives at the annual sales convention this week.

"Business is picking up," Mr. Brooks said. "In 1928 there will be plenty of business for every manufacturer of a good automobile if that manufacturer goes out after business. The competition will be keen and the motor car buyer will get more for his money than ever before. I believe that business conditions will show a marked improvement in 1928 and that we will experience an era of great prosperity which will reach its peak in 1929."

"Our program for 1928 was formulated and brought to completion after an analytical examination of what we believe to be the intrinsic and fundamental components of the automobile market. The principal factor which bore the greatest influence on the 1928 plan of Marmon was growth in the general popularity of the straight-eight, which has centered in a demand for this type in the low and medium priced buying fields."

Diesel Plane Engines Predicted by Driggs

NEW YORK, Jan. 7—Diesel engines for use in airplanes were predicted by Col. Lawrence La Tourette Driggs, president of the American Flying Club and a director of the Colonial Air Transport Co., at the meeting this week of the Exchange Club. He stated that Elmer Sperry had developed a Diesel engine which uses no flame, consumes three-fifths of the amount of fuel now being used in airplane engines and is light and durable.

The Sperry Development Co. declined to discuss this engine but it was admitted that experimental work was being carried on for the development of a light Diesel airplane engine.

Coming Feature Issue of Chilton Class Jour- nal Publications

Feb. 18—Statistical Issue—
Automotive Industries.

Automotive Buildings to Gain 1.1 Per Cent in 1928

NEW YORK, Jan. 9—In its building forecast for 1928, Architectural Forum predicts that construction work will carry along much more strongly than has been generally anticipated. Any decrease in volume which might result from lessened activity by speculative builders will be offset by large investment and institutional projects deferred during 1926 and 1927.

The Forum forecasts that automotive buildings will increase 1.1 per cent over last year, buildings of this type being exceeded only by dwellings under \$20,000 of which it forecasts an increase of 1.6 per cent. A falling off of 2.2 per cent in church projects and 2 per cent in industrial building represent the largest reductions.

Timken Bearing to Add New \$1,000,000 Building

CANTON, Jan. 9—An addition to the plant of the Timken Roller Bearing Co., costing \$1,000,000 or more, is to be under way in the near future. H. H. Timken, president of the company, out of the city on a short vacation, will not divulge complete details until later, it was announced. Large orders recently received and expected to be received during 1928 including those from Ford Motor Co. demand more factory space and necessitate expansion of the Timken plant.

Finnish Show Feb. 19

WASHINGTON, Jan. 11—The Finnish Automobile Dealers' Association will hold its third annual automobile show at Helsingfors Feb. 19 to 26, the Department of Commerce is advised. Automobiles, motorcycles, trucks and automotive accessories will be on display.

2799 Miles Added Federal Aid Roads

WASHINGTON, Jan. 11—Federal-aid highway construction work completed in the five months ended Nov. 30 totaled 2799.5 miles at a cost of \$63,899,413, of which \$28,197,766 was supplied from Federal funds, according to the monthly report of progress on construction work issued by the bureau of public roads of the Department of Agriculture. The only states where no projects were completed during this period are Maryland and West Virginia.

Projects are now under construction in every state for a total of 13,899.9 miles at a cost of \$364,896,088, the report said. Federal payments will comprise \$150,820,606 of this amount. These figures include projects which have been reported completed, but on which final vouchers have not been paid. Figures for highway construction under this status are: Estimated costs, \$130,266,567; Federal aid, \$55,625,438; miles, 5,021.1.

Projects for 1,455.9 miles of highway at a cost of \$36,725,663, of which the Federal allotment is \$13,785,713, have also been approved for construction, the statement said. Federal aid funds still available for new projects total \$41,688,221.

Cleveland New Car Sales Show 16% Drop in 1927

CLEVELAND, Jan. 9—Sales of new cars slumped off 16 per cent during 1927, while used car sales dropped 6 per cent below the 1926 total, figures prepared by the Cleveland Automobile Manufacturers & Retailers Association reveal. Total sales of new cars in 1927 were 32,240 as compared with 38,703 in 1926. The used car figures for 1927 were 121,830 and in 1926 129,726.

Used car sales in December of this year picked up a great deal, exceeding by far the figures for the preceding month and the same month last year, while new car sales barely topped the November record and fell behind that of December, 1926. Figures are: December, 1273 new, 10,419 used; November, 1228 new, 6326 used; December, 1926, new 1963, used 6990.

Calendar of Coming Events

SHOWS

All Western Road Show, Los Angeles, March 7-11
American Electric Railway Ass'n., Public Auditorium, Cleveland, Sept. 22-28
Amsterdam, Jan. 20-29
Automotive Equipment Association, Coliseum, Chicago, Oct. 22-27
Berlin, Nov. 8-18
Boston, Mechanics Bldg., March 10-17
Brussels, Dec. 8-19
Chicago, National Automobile Chamber of Commerce, Coliseum, Jan. 28-Feb. 4
Copenhagen, Feb. 23-March 4
Geneva, March 16-25
International Aircraft Show, Berlin, March 23-April 11
Laybach, Yugoslavia, June 2-11

*Will have special shop equipment exhibit.

Leipzig, trucks only, March 4-14
London, passenger cars, Oct. 11-20
Paris, Oct. 4-14
Prague, Sept. 1-9
Rio de Janeiro, May 3-13
Salon, Automobile Salon, Inc., Hotel Drake, Chicago, Jan. 28-Feb. 4
Salon, Automobile Salon, Inc., Hotel Biltmore, Los Angeles, Feb. 11-18
Salon, Automobile Salon, Inc., Palace Hotel, San Francisco, Feb. 25-March 3
United States Good Roads Show, Des Moines, May 28-June 1
Zagreb, Yugoslavia, April 29-May 6

CONVENTIONS

American Electric Railway Ass'n., Public Auditorium, Cleveland, Sept. 22-28
Automotive Equipment Association, Grand Hotel, Mackinac Island, June 10-16

Automotive Equipment Association, Coliseum, Chicago, Oct. 22-27
National Automobile Dealers Ass'n., Annual Meeting, Palmer House, Chicago, Jan. 31-Feb. 2
National Battery Mfrs. Ass'n., Chicago, Feb. 15-16
National Foreign Trade Council, Houston, Texas, April 25-27
Society of Automotive Engineers, Annual Meeting, Detroit, Jan. 24-27
United States Good Roads Association and Bankhead National Highway Association, Des Moines, May 28-June 1

RACE

Daytona Beach, Fla., series of stock car races and world's speed trials, Feb. 15-23